ÖLFLEX® CONNECT CHAIN

Cable Chain Systems made by LAPP 2018 | 19
The days in which the manufacturing and service sectors could be clearly separated are well and truly over. A change is taking place in people’s minds, in factories and in businesses like LAPP. Customers are searching for solutions rather than components, and manufacturers are now developing and providing complex systems.

Our ÖLFLEX® CONNECT range shows what can happen when components and solutions are seen as a single entity rather than treated separately.
Legend

Cable chain engineering guideline

This flap supports you with easier page navigation. The 8 steps refer to cable chain selection from page 25 onwards.

1. Input data to determine the type of cable chain
   Collect all necessary application requirements: cable and hose specifications (weight, outer diameter, jacket material, bend radius), chain travel distance, available space, bracket fixing configuration, etc.

2. Cable chain layout design
   Determine required inner cable chain space while applying all basic rules and check with available application space

3. Selection of cable chain type
   Select a cable chain which fits to requirements using a product selection table

4. Bend radius
   Calculate suitable bending radius in accordance with parameters of all flexible cables and hoses

5. Cable chain length calculation
   Calculate appropriate cable chain length in accordance with given travel distance

6. Self-supporting capacity calculation
   Determine self-supporting capacity with respect to an additional load

7. Double-check of selected cable chain type
   Choose cable chain that fits to determined requirements

8. Selection of accessories
   Specify additional components such as end brackets, separators and channels in accordance with selected chain type

Industries

- Automation
- e-Mobility
- Food & beverage
- Mechanical and plant engineering
- Oil & gas
- Rail
- Solar energy
- Wind energy
- Assembly time
- Low weight
- Oil-resistant
- Optimum strain relief
- Space requirement
- Power chain
- Clean room
- Robust
- Acid-resistant
- Reliability
- Integrated SKINTOP® cable gland
- Voltage
- Connector with standard housing unit
- Interference signals
- Temperature-resistant
- Torsion-resistant
- Torsion load
- UV-resistant
- Waterproof
- Variety of approval certifications
Please note: the purpose of the icons is to provide you with a quick overview and a rough indication of the product features to which the corresponding information relates. You can find details of product characteristics in the “technical data” sections on the product pages.
Andreas Lapp, Matthias Lapp, Ursula Ida Lapp, Alexander Lapp, Siegbert Lapp.

- 70,000 m² of assembly and warehouse floor space in Germany alone
- 15,000 components constantly on stock
- 571 assembly points in our own LAPP offices worldwide plus distribution partners in over 100 countries
- 40 engineering hours per day for our individual customer projects
- 4,568 system engineers globally to serve all your cabling requirements
When eight high-quality brands become one strong solution: ÖLFLEX® CONNECT.

Products
With over 40,000 branded components and thousands of products in stock, we are able to support you with individual cabling solutions and optimum development expertise.
Solutions

Everything is possible – from customised cable assemblies to industry standard servo connections right through to sophisticated high-speed cable chain systems. Do it all with ÖLFLEX® CONNECT – System Solutions made by LAPP.

ÖLFLEX® CONNECT: This is the name under which LAPP is expanding its range of cable assemblies, taking the logical step from a component supplier to a system provider. The focus is on expanding what we do best. At LAPP, this means cables, connectors and accessories, as well as the resulting complete system solution.

But why are we repositioning ourselves like this? When technologies become more complex, solutions for customers have to be simpler. But this requires more than just the components. It requires joined-up thinking, collaborative development and cooperation. This means offering solutions that complement the customer’s needs, including the processes.

INFOBOX

ÖLFLEX® CONNECT

Expanding cable assembly, giving better advice to customers and standardising global activities – these are the ideas behind ÖLFLEX® CONNECT. To this end, LAPP is building up its engineering, production and assembly capacities in America, Europe and Asia. We have invested in many sites all over the world and will continue investing to strengthen the service we provide to our customers.

With our three distinct harnessing services, we customize solutions, covering all your connectivity needs:

ÖLFLEX® CONNECT CABLES
Cable Systems made by LAPP

ÖLFLEX® CONNECT SERVO
Servo Systems made by LAPP

ÖLFLEX® CONNECT CHAIN
Chain Systems made by LAPP
Start thinking smart today

Our idea of a system

Start focusing your resources on your core project and let LAPP handle your connectivity needs for maximum profitability.

We accompany you on the search for sophisticated, tailored and cost-efficient connectivity solutions.

With ÖLFLEX® CONNECT, we provide you with an extensive selection of custom cable or industry standard servo assemblies right through to complex drag chain applications. From engineering and design to customer specific testing, delivery or on-site installation to small batch sizes or series production - we do it all.

ÖLFLEX® CONNECT – your benefits

1. No capital expenditure
   Avoid investing in your own production facilities – leverage our state-of-the-art equipment and tools

2. Less operating expenditure
   Benefit from a simplified supplier base and reduced operating expenditure - get all your cable connectivity solutions from a single source: LAPP

3. Reduced Inventory
   No stocks of connectors, cables, conduits and hoses. No component scrap or cutting waste

4. Highest scalability
   With LAPP you can immediately respond to changes in market demand. There is no need to worry about component inventories, machines or worker capacities. Just order what you need

5. Technical expertise
   Make use of our cabling technology expertise and get uncompromising quality branded products for maximum reliability and safety
Our idea of a cable chain system includes chains made of nylon or steel with highly flexible cables, cable protection conduits, hydraulic hoses or pneumatic hoses including termination (connectors, fittings) and functional units such as towing arms or supporting structures.

Your benefits with our cable chain systems:

- **Reliable cutting-edge technology**
  High-quality components, assembled to deliver minimum maintenance and maximum service life

- **Guaranteed brand quality**
  Our cable chain systems are rigorously tested to guarantee hassle-free operation

- **Closer to you**
  With multiple manufacturing sites in Europe, Asia and the Americas, we can support your cable chain assembly needs wherever you are

- **Competent system supplier**
  With LAPP, you receive everything from one source, from individual cable chain assemblies to a whole integrated system

### Our cable chain service

LAPP is there throughout all project phases - from design to component selection to assembly. Our experts work with you every step of the way:

1. **Technical evaluation**
   - On-the-spot meeting
   - Definition of project scope
   - One contact person during project phase
   - Planning and timing

2. **Initial CAD design of the cable chain system**
   - incl. cable layout

3. **Complete project management**
   - Documentation
   - Drawings
   - Selection of components (BOM)
   - Cost and interface controlling

4. **Completion of chain system design**
   - Delivery to operation site
   - On-site installation service by LAPP specialists
   - Shipping in professional LAPP packaging
   - After-Sales-Services

Comprehensive test reports and individual installation instructions can be provided upon request.
Configuration options

What can be included in a cable chain system:

- Nylon or steel cable chains in accordance with application requirements
- Highly flexible power, control, signal and data network cables including accessories (cable lugs, connectors, etc.)
- Protective cable conduits with conduit glands
- Hydraulic hoses with fittings
- Pneumatic hoses
- Towing arms or other functional units
- CAD drawing of your chain including cable layout (optimal placement and separation of all energy lines in a chain)

Possible cable chain types

Nylon cable chains
- Cable chains made from nylon (polyamide PA 6) cable chains for self-supporting, sliding or circular motion applications
- Open or fully closed design available

Steel cable chains
- Cable chains made of steel (galvanized steel or stainless steel) for standard self-supporting, sliding applications or applications with circular motion
- Open or fully closed design available

Combined cable chains
- Steel (galvanized or stainless) cable chains for standard self-supporting, sliding or circular motion application
- Open or fully closed design available

Three system packages – the choice is yours

| | Series: Nylon, Steel or Robot | | |
|---|---|---|
| All media, incl. layout (cables, hoses) | • | • | • |
| Accessories (channels, rollers) | • | • | • |
| Terminations (connectors, fittings) | • | • | • |
| No electrical installation needed | • | • | • |
| 100% electrical testing | • | • | • |
| No cable cutting loss | • | • | • |
| Plug-and-Play system | • | • | • |
| Multi-chain/ nested chain applications | • | • | • |
| Functional units (supporting structures, towing arms, cabinets) | • | • | • |
We produce different cable types for fast cabling of CNC machinery, switch boxes, control cabinets and electrical assemblies. Our product range stretches from single cores and multi-core cables through to EMC-shielded cables which can be fitted with a wide selection of crimp contacts, connectors and housings. We also supply highly flexible and durable premium quality spiral cables. Another of our specialities: glass fibre system solutions, which we stock in standard lengths or produce, test and supply in exactly the length you require.

Our range of assembly services

- Cable cutting as required
- Winding with specified bending radius
- Stripping
- Crimping
- Heat shrinking
- Markings (labels, sleeves, marking rings, stainless steel marking)
- Cable printing
- Crimp force monitoring (CFM)
- Push-pull tests
- Resistance testing

With our smart servo solutions you get cables in 3 classes: Basic Line, Core Line and Extended Line.

<table>
<thead>
<tr>
<th>basic line</th>
<th>core line</th>
<th>extended line</th>
</tr>
</thead>
</table>

All cables are fitted with our newly designed connector. This connector is tamper-proof, as it is pressed rather than screwed like conventional connectors. The 360° screen contact makes a huge improvement to EMC shielding (6db). In addition, the cable design in our Core Line enables a semi-automated production process. This ensures higher process reliability and a globally regulated quality standard accordingly.

Your benefits at a glance

- Improved EMC shielding (6db) through new connector design size 1/M23 (SIEMENS®, Lenze®, SEW® and Rockwell®)
- Improved quality through semi-automated assembly process
- Tamper proof (connector cannot be opened)
- Complete LAPP solution incl. new controller connector for harnessing according Siemens®
Curiosity is what drives us

Our long term experience in highly flexible cables in combination with cable chain systems allows us to discover market trends quickly and work efficiently on valuable innovations for our customers.

Multi-flexible chain
In 1989 we developed the first “ROBOT” chain that you can find in nearly every cable chain catalogue in the industry today. With our next development step we will enter the level of highly flexible cable chain solutions for anthropomorphic robots.

Industry 4.0
Intelligent production requires intelligent products. Every movement, every cycle is recorded by the intelligent brain of our chains of tomorrow and wear is tracked so that maintenance can be scheduled in advance to eliminate downtimes and to guarantee fault-free performance of the entire ÖLFLEX® CONNECT CHAIN system.
Green manufacturing

In accordance with LAPP’s ambitious environmental goals, all chains are 100% recyclable at the end of their lifecycle. Some of our new chains in addition allow a 50% (or more) reduction in the pushing-pulling force. This means lower absorption of energy for moving our chains, which saves energy costs and helps the environment.

Glass-fibre assemblies

Did you know - you can also rely on us for sophisticated glass fibre assemblies. We offer glass fibre harnessings from standard lengths available in stock and manufacture, test and deliver special lengths assembled to your needs. We can even design and incorporate them into your cable chain system.

Premium quality spiral cables

When producing spiral cables, we have a wealth of expertise at our disposal. Flexibility and durability are key factors for applications requiring long-term high performance. It is also crucial to have the appropriate insulation and the right conductor material. With LAPP, your spiral cables are definitely in safe hands.

Highly dynamic applications

Four requirements: low weight, high acceleration, compact dimensions and a long service life. With premium components from LAPP you get a wide range assortment of servo, energy and data cables as well as cable chains for your application needs. Innovative in speed and efficiency, they enable productivity improvements through faster position changes in your system.

CAD-design of cable chain system
Every single component used in a LAPP system solution has undergone a demanding development and testing process. With us you will always be on the safe side.

The LAPP Lab
The electrical mechanical and chemical parameters of every component are tested in-house with state-of-the-art testing methods. Our highly flexible cables have to withstand millions of bending cycles at different speeds and with extreme bending radii. They also need to resist mechanical and chemical stresses. Our lab assures performance by:

- Heat, cold and climate tests for aging resistance
- Chemical substance tests
- Mechanical and robot torsion tests
- IP protection rating tests
- Static and dynamic pulling protection tests
- Resistance tests
- Electrical tests and material analysis

System test
Cable assemblies and entire cable chain systems are tested in-house in our test centre. The facility includes robot test applications and high-speed drag chain tracks. Specialised teams test the complete system including all products in their intended field of use – sometimes in extremely hot or cold conditions or with particular environmental influences.

Your ÖLFLEX® CONNECT CHAIN will be delivered with a comprehensive test report.

Service point network
With our rapidly increasing tight-knit service point network, we are able to support you globally with any kind of cable, servo or drag chain assembly. We understand your local needs, markets and language.

Scalability
We offer harnessing services from easy cable assembly to highly complex drag chain systems, from batch size 1 to serial production and from short cable harnessings, to cable trees, right through to highspeed drag chain systems with long travel distances.

In-house production
Our branded components are developed, designed and produced by our own hands. We serve your needs directly from 18 production facilities across America, Europe, and Asia.

Logistics
Who actually likes waiting for a solution or replacement? We won’t leave you waiting, as we guarantee a quick delivery all over the world with our sophisticated network of logistic centres and professionally trained engineering experts.

Certifications
Our products are used in almost every industry and are frequently found in the most sophisticated machines that operate around the clock – where downtime is not an option. But it is not just in major machinery that you need to be able to rely on the smallest of connections. It is everywhere. As an evidence of LAPP quality and reliability, our products carry the world’s strictest approvals.

Sustainability
Technological advancement and ecological sustainability are important to us. That is why we are environmentally conscious regarding natural resources. For example, our photovoltaic system in Stuttgart, Germany, generates 1,000 MWh of energy, thus reducing CO₂ emissions by around 650 tonnes per year!
The new ÖLFLEX® CONNECT CHAIN configurator: You can use it to digitally engineer a power chain online with just a few clicks of the mouse. Configuring power chains is no longer a complicated task as this tool makes it easy, even for less experienced users. The ÖLFLEX® CONNECT CHAIN configurator automatically switches off all error sources and always finds the best solution.

The online configurator acts as a step-by-step guide through the choice of cable chain, cables and relevant accessories. It makes sure that components are compatible every step of the way, especially when it comes to the cables’ minimum bend radius. The cable chain must not have a smaller bend radius than the cable. If this is the case, the configurator will display a warning message and suggest other types of cable chain. Other criteria include the travel length, acceleration, temperature behaviour and shielding. The configurator automatically excludes cables that are not suitable for the application. When the configuration is complete, you will receive a personalised quotation and are then able to choose whether you want to purchase the power chain fully assembled by LAPP or as individual components, with the option of having the cables pre-cut to the appropriate lengths.

Please find more info here:

- Online configurator
  Configure your individual ÖLFLEX® CONNECT CHAIN here online incl. all media (cables, hoses)
  www.lappkabel.com/chainconfigurator

- ÖLFLEX® CONNECT CHAIN catalogue
  Find complete ÖLFLEX® CONNECT CHAIN catalogue here online or download as pdf
  www.lappkabel.com/catalogues

- Chain-Engineering Guide
  50 pages full of technical expert know-how around your chain configuration
  www.lappkabel.com/chainguide
There for you worldwide

To contact your local LAPP representative, please visit our website
www.lappgroup.com

- ÖLFLEX® CONNECT CABLE service-points in over 40 LAPP locations
- Additionally servo harnessings and drag chain assemblies available in regional hubs
- Global engineering centre for special drag chain applications and systems requirements
Section 1

Introduction

Section 1

Cable chain introduction 15
Elements of a cable chain 16
Constructional material properties 19
Environmental and chemical conditions 21
Possible system configurations 22

Section 2

8 steps of cable chain engineering 25

Section 3

Cable chain accessories 33
Self-supporting diagram 39
System configurations 40
Cable assembly guidelines 50
Cable chain introduction

A cable chain is a mechanical system designed to protect, carry and guide cables (power, control, data or fiber optics) and hoses (hydraulic or pneumatic) in dynamic motion applications - to transfer power and signal between two points in relative movement to each other (translation, rotation or combined movements). That is why cable chains are also considered an energy supply system for equipment with motion sub-systems.

Advantages of cable chains

Competitive advantages of the cable chains as compared to the traditional systems of conductor bars and festoon systems are:

- The ability to carry different kinds of utilities (power, signal, data cables, hydraulic and industrial hoses)
- Compatibility of their use in harsh environments (presence of dust, humidity, aggressive chemical and atmospheric components, etc.)

Main functions of a cable chain

- High speed and acceleration
- Shorter installation times (no motors or drives needed like in reels of festoons)
- Less and easier maintenance
- Much lower length of the utilities with equal travel distance of the mobile point

also referred to as
“drag chain”
“cable track”
“cable carrier”
“energy chain”
Elements of a cable chain system

A cable chain is an assembly of interconnected chain links terminated by end brackets on both sides. A wide range of accessories such as support rollers, guiding channels, etc. extends the possibilities of cable chain use.

One chain link consists of the following elements:
- Sideband composed of links
- Frames
- Separators
- Protective covers
- Pins

End brackets can be equipped by different types of cable fixing systems (nylon tie wrap clamps, steel cable clamps).
Frames

Different frame options are available depending on customers’ application requirements.

For further details please see section “Frame variants” on page 36.

Separators

Cables and hoses need to be separated from each other in many cases. A wide range of cable chain separators is available for each type of chain, which allows infinite combinations of use to fit any requirement positions.

For further details and info please see section “Separation options” on page 38.

INFOBOX

As a general rule, the separators are mounted every second pitch. Different mounting frequencies may be required.
Protective covers
Cable chains are often located in very harsh environments, where a standard open-frame design is not enough. Nylon, aluminum, galvanized or stainless steel covers are available for additional protection.

Pins
Typical yellow pins connect chain links in most cable chain designs. A combination of black nylon chain and yellow pins are carefully selected to clearly visualise the possible danger of moveable devices. Different pins can be used as a sliding element in cable chains working on side. Pin colours can be customised according to customers’ specifications.

End brackets
The end bracket connects the cable chain system to the machine. It can be delivered in many different configurations and materials.

Dimensional cable chain parameters
The main geometrical features of a self-supporting cable chain are:
- **LS** - Travel distance (stroke length)
- **R** - Bending radius
- **P** - Chain link pitch (distance between two hinge points on a side link)
- **H** - Minimum upper installation height of the mobile point end bracket
- **Pr** - Pre-set (also called “pretension”)
- **Ox, Oy, Oz** - Overall system dimensions
- **LSA** - Distance of the feeding point from the extended end of the stroke
- **A** - External chain link width
- **B** - External chain link height
- **C** - Inner chain link width
- **D** - Inner chain link height
- **N** - Position at reverse parking

For further details and info please see section “Frame variants” on page 36.
Constructional material properties

Used materials
The cable chains are distinguished by the materials used for the chain links and the materials used for the cross frame. We therefore divide the chains into:

Nylon cable chains
• Both cable chain links and the cross frames are made of a compound based on polyamide PA6 (BRYLON 6) for self-supporting, sliding applications or applications with circular movement
• For use in standard applications in most environments
• Open or fully closed design available

Steel cable chains
• Chain links are made of steel (galvanised steel or stainless steel - AISI304 or AISI316) for standard self-supporting, sliding applications or applications with circular movement
• Ideal for an environment in which nylon does not resist (e.g. extremely low or high temperatures, hot chips, etc.)
• Open or fully closed design available

Hybrid cable chains
• Chain links and cross frames are made of combined materials (e.g. nylon sidebands with aluminium frames or aluminium covers) for special requirements
• Combination of nylon, aluminium or steel parts help to withstand critical environments and to increase chain lifetime while maintaining optimal cost
• Open or fully closed design available

Resistance and behaviour of nylon chains
Nylon cable chains are developed with a special polyamide reinforced with glass fibre, BRYLON 6. The high resistance to tension, the low friction coefficient together with the general characteristics of the most evolved compound thermoplastics allow the cable chains to be used in most environments and temperatures. The main characteristics of BRYLON 6 are:

Self-Extinguishing
BRYLON 6 has the certificate UL-94HB. Polyamide V0 or V2 can be used on request.

Chemical Resistance
BRYLON 6 is generally resistant to oils, grease, petrol, ammonia and water (sea water). Problems could arise with the presence of acids.

Operational Temperature
• Nylon cable chains can be used in application with a temperature range between -25 °C and +125 °C
• In case of application with “continuous” temperature lower than -15 °C or higher than +95 °C, the mechanical values could be reduced. We are able to offer solutions using special compounds here.

For application ranging lower than -25 °C or higher than +125 °C, please contact our technical office.

UV Rays
BRYLON 6 is resistant to UV rays and it is therefore suitable for outdoor applications.

Explosion Proof
Drag chains suitable in high-risk explosion environments can be supplied made of the special material BRYLON AD. These chains comply with ATEX Directive 94/9/CE. For further information, please contact our engineering experts.

Clean room-proof
The standard version of the cable chain 305A009 has been tested and proved to be Class 1. For further information, please contact our engineering experts.

Colouring
Our drag chains come with a standard Colouring of black links and the yellow pins. On request, drag chains and/or pins can be produced in customised colors.
Resistance and behaviour of steel chains

**Operational Temperature**
- Steel cable chains can be used for temperatures up to 200°C because in case of higher temperature the surface treatment (zinc-plated galvanisation or painting) are damaged by heat
- Stainless steel lowercase cable chains can be used for temperatures up to 400°C

**Self-Extinguishing**
Not applicable

**UV Rays**
Steel and stainless steel are resistant to UV rays and they are therefore suitable for outdoor applications.

**Chemical Resistance**
- Zinc-plated steel is generally resistant in “normal” atmospheric environments. It is absolutely not suitable for marine or food environments. Moreover, problems could arise with the presence of acids, especially in presence of sulphur, chlorine and ammonia
- Stainless steel is suitable for harsh, food and nuclear environments. It is also suitable (in grade AISI316L) for use of sea water. If in water and in contact with other metallic parts, galvanic corrosion can occur. The corrosion resistance of stainless steel can be improved with surface treatments such as electro-polishing

**Colouring**
There are no limitations for steel chain colouring. However the relative movement between the links can damage the painting, so painting steel chains is not recommended.

**Explosion Proof**
Stainless steel cable chains are suitable in explosion-proof environments. These chains comply with ATEX Directive 94/9/CE. For further information, please contact our engineering experts.

**Clean room-proof**
Steel chains are not suitable for the use in clean rooms. Not applicable.
Environmental and chemical conditions

The table shows the resistance to chemical agents of BRYLON 6 and steel.

<table>
<thead>
<tr>
<th>Chemical agents</th>
<th>Concentration %</th>
<th>Amorphous</th>
<th>Crystal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl acetate</td>
<td>100</td>
<td>++++ 3</td>
<td>++++ 2</td>
</tr>
<tr>
<td>Acetone</td>
<td>100</td>
<td>++++ 4</td>
<td>++++</td>
</tr>
<tr>
<td>Acetic acid (aqueous solution)</td>
<td>40</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Acetic acid (aqueous solution)</td>
<td>10</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Citric acid</td>
<td>10</td>
<td>+++ 15</td>
<td>+++</td>
</tr>
<tr>
<td>Hydrochloric acid (aqueous solution)</td>
<td>36</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Hydrochloric acid (aqueous solution)</td>
<td>10</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Hydrochloric acid (aqueous solution)</td>
<td>2</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Chromic acid (aqueous solution)</td>
<td>10</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Chromic acid (aqueous solution)</td>
<td>1</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Hydrofluoric acid</td>
<td>40</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Formic acid (aqueous solution)</td>
<td>85 S</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Formic acid (aqueous solution)</td>
<td>40 S</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Phosphoric acid (aqueous solution)</td>
<td>10</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Oleic acid</td>
<td>100</td>
<td>++++ 3</td>
<td>++++ 3</td>
</tr>
<tr>
<td>Sulphuric acid</td>
<td>98</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Sulphuric acid (aqueous solution)</td>
<td>40</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Sulphuric acid (aqueous solution)</td>
<td>10</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Sulphuric acid (aqueous solution)</td>
<td>2</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Tartaric acid (aqueous solution)</td>
<td></td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Water</td>
<td>++</td>
<td>++++ 10</td>
<td>++++ 9</td>
</tr>
<tr>
<td>Chlorine water</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Ethyl alcohol</td>
<td>96</td>
<td>++++ 17</td>
<td>++++ 3</td>
</tr>
<tr>
<td>Ammonia</td>
<td>10</td>
<td>++++ 1</td>
<td>++++</td>
</tr>
<tr>
<td>Petrol</td>
<td>100</td>
<td>++++ 1</td>
<td>++++</td>
</tr>
<tr>
<td>Bitumen</td>
<td></td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Potassium carbonate</td>
<td>100</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Sodium carbonate</td>
<td>10</td>
<td>++++ 10</td>
<td>++++ 3</td>
</tr>
<tr>
<td>Ammonium chloride (aqueous solution)</td>
<td>10</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Calcium chloride (aqueous solution)</td>
<td>20</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Calcium chloride (aqueous solution)</td>
<td>10</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>10</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Formaldehyde (aqueous solution)</td>
<td>30</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Fat</td>
<td>++</td>
<td>++++</td>
<td>++++</td>
</tr>
<tr>
<td>Milk</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Mercury</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Oils</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Paraffin oil</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Silicon oil</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Diesel oil</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Mineral oil</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Ozone</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Oil</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Potassium hydroxide (aqueous solution)</td>
<td>10</td>
<td>++++ 9</td>
<td>++++ 3</td>
</tr>
<tr>
<td>Sodium hydroxide (aqueous solution)</td>
<td>50</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Sodium hydroxide (aqueous solution)</td>
<td>10</td>
<td>++++ 5</td>
<td>++++</td>
</tr>
<tr>
<td>Sodium hydroxide (aqueous solution)</td>
<td>5</td>
<td>++++ 9</td>
<td>++++</td>
</tr>
<tr>
<td>Aluminium sulphate</td>
<td>10</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Soap (aqueous solution)</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Tincture of iodine</td>
<td>++</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>++++ 5</td>
<td>++++ 4</td>
<td>++++</td>
</tr>
<tr>
<td>Vaseline</td>
<td>++++</td>
<td>++++</td>
<td>++++</td>
</tr>
</tbody>
</table>

**Resistance classification indicator**

+++++ Very good resistance
++++  Good resistance
+++ Limited resistance
++  Poor resistance
+ Soluble

**Amorphous** Polymer in amorphous state

**Crystal** Polymer in crystalline state

The number beside the resistance classification indicator (+++++, ++++, etc.) shows the percentage of weight increase due to absorption.
### Possible system configurations

<table>
<thead>
<tr>
<th></th>
<th><strong>Self-supporting</strong></th>
<th><strong>Sliding</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single chain configuration</strong></td>
<td>Upper moving</td>
<td>Lower moving</td>
</tr>
<tr>
<td><strong>Side by side</strong> Ring configuration</td>
<td>Nested cable chains configuration</td>
<td>Two sliding cable chains in ring configuration</td>
</tr>
<tr>
<td><strong>Multi-axis motion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Robot series</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rotations single chain</strong></td>
<td>Multiple Robot series cable chains</td>
<td></td>
</tr>
<tr>
<td>Side mounted</td>
<td>Vertical</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Cable chain side mounted</td>
<td>Vertical with lower radius</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical with curve above</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zig zag</td>
<td></td>
</tr>
<tr>
<td>Two cable chains in ring configuration side mounted</td>
<td>Vertical two cable chains in ring configuration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical nested cable chains</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical side by side</td>
<td></td>
</tr>
<tr>
<td>Cable chain side mounted</td>
<td>Radius below</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radius above</td>
<td></td>
</tr>
<tr>
<td>Single cable chain side mounted</td>
<td>Single cable chain side mounted - rotating floor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single cable chain - horizontal axis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Robot nested</td>
<td></td>
</tr>
<tr>
<td>Multiple cable chains side mounted</td>
<td>Multiple cable chains horizontal axis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multilayer up to ± 330°/layer</td>
<td></td>
</tr>
</tbody>
</table>
Section 2
Cable chain engineering
Cable chain engineering in 8 easy steps

1. Input data to determine the type of cable chain
   Collect all necessary application requirements: cable and hose specifications (weight, outer diameter, jacket material, bend radius), chain travel distance, available space, bracket fixing configuration, etc.

2. Cable chain layout design
   Determine required inner cable chain space while applying all basic rules and check with available application space

3. Selection of cable chain type
   Select a cable chain which fits to requirements using a product selection table

4. Bend radius
   Calculate suitable bending radius in accordance with parameters of all flexible cables and hoses

5. Cable chain length calculation
   Calculate appropriate cable chain length in accordance with given travel distance

6. Self-supporting capacity calculation
   Determine self-supporting capacity with respect to an additional load

7. Double-check of selected cable chain type
   Choose cable chain that fits to determined requirements

8. Selection of accessories
   Specify additional components such as end brackets, separators and channels in accordance with selected chain type

Please find detailed information on each point above in the following sections.
1 Input data to determine the type of cable chain

The choice of cable chain should not only be based on a mathematical calculation of certain factors but should consider and analyse carefully all the available data. The following information will provide basic help in making the right decision.

The first step in cable chain selection is the definition of the internal chain link dimensions. Therefore, key technical parameters must be defined:

Utilities

**Cables**
- Overall diameter ODc (mm)*
- Weight (Kg/km)*
- Minimum dynamic bending radius MBR (mm)*
- Type → power, signal, data, optical
- Material → PVC, PUR, etc.

**Hoses**
- Overall diameter ODh (mm)*
- Empty weight (Kg/m) and full weight (Kg/m)*
- Minimum dynamic bending radius MBR (mm)*
- Working pressure
- Linear expansion % under pressure
- Radial expansion % under pressure
- Type → industrial, hydraulic, pneumatic
- Media → air, water, mud, oil, etc.

Application parameters
- Type of movement (linear, rotation, combined)
- Travel distance LS
- Speed
- Acceleration
- Installation available room (Ox, Oy, Oz – mm)

(Possibility to use more than one chain)

Duty cycle and service factor
- Cycle time
- Working hours a day
- Working days a week
- Service factor %

Application environment
- Temperature
- Humidity %
- Outdoor vs. indoor
- Clean vs. dirty
- Presence of chemical agents

* Mandatory data (required spare space Sp% and distance Du of separation between different utilities if required)

INFOBOX

Cable chain is used for protection and guiding of flexible cables and hoses installed in a cable chain. For that reason chains must always be designed in accordance with cable/hose features and not the other way round.

Our long-term experience in cables enables us to support you with any kind of technical advice. Please contact our technical engineers.

2 Cable chain layout design

To ensure proper cable chain functions and to avoid any damage to the cables, please determine the right chain size according to following basic rules:

**Legend**
- Cable
- Hose

Fig. 1

1) For electric cables, a clearance of at least 10% between the cable and the outer frame must be guaranteed; for pneumatic lines the clearance should be 15%, while for hydraulic hoses the clearance should be at least 20% (Fig. 1)

Fig. 2

2) Avoid placing cables/hoses that have different outer sheaths together in one section so that friction can be eliminated (e.g. cables and hydraulic hoses) (Fig. 2)

Fig. 3

3) If several cables/hoses are used, it is preferable to avoid them rubbing each other by placing them in an isolated space and using separators to separate them. If this is not possible, verify that the internal space does not allow cables/hoses to be twisted. H < d2 or, for any couples of utilities not separated each other, – d1 + d2 > D (Fig. 3)
4) Place cables/hoses symmetrically according to their dimensions and weight, placing the largest and heaviest externally and the smaller and lighter ones internally (Fig. 4)

5) If possible, all cables should be placed in one single layer. This will improve the operating life time of the system. Multi-layer separators are difficult to assemble, maintain and are more expensive (Fig. 5)

Multi-layer layout
In case of space limitations, one option can be to reduce the link width. Link height must be increased accordingly. Then utilities have to be placed on more layers.

For multi-layer utility layouts, please contact our specialists.

If the calculated cable chain width is too wide, please choose from the following options:

- Multiple chains in nested or ring configuration (see page 22/23)
- Layout with utilities on more layers inside the cross section of the cable chain (see step 2)

3 Selection of cable chain type

Make the first selection of a cable chain from our product selection table (see page 52/53) in accordance with the required inner chain link dimension, taking into account material type (nylon vs. steel), speed, acceleration and other factors.

Nylon
- Multiple Application Series
- Heavy Duty
- Sliding Applications

Steel
- Multiple Application Series
- Sliding Applications

Robot
- Robot Series
4 Bend radius

In order to define the → Bend Radius (BR) of a cable chain, the list of all the cables and hoses needs to be considered: all bending radii of cables and hoses determine which chain BR has to be chosen → chain BR has to be equal or higher than highest cables/hoses MBR (Maximum Bend Radius).

Please check the technical data sheet of each input utility.

Please consider that:
• The cable MBR is calculated in relation to the central axis
• The hose MBR is calculated in relation to the inner bending
Cable chain length calculation

Considering the distance LSA between the feeding point and centre of travel distance LS, five different configurations are possible:

**Feeding point position**

- **LSA=LS/2** Centre feed
- **LSA>LS/2** Overlength mobile point
- **0<LSA<LS/2** With offset
- **LSA=0** End feed
- **LSA<0** Overlength feeding point

**INFOBOX**

Since a cable chain is a sequence of links, the chain length must be a multiple of the pitch “P”. For the steel chain N-series only, the round up must be taking account of the odd number of chain links.

**Legend**

- **LS** = Travel distance
- **LSA** = Fixed point displacement in relation to the extended end of the stroke
- **M** = Bent length of the chain
- **R** = Chain’s bending radius
- **P** = Pitch
- **N** = Parking space when the chain is completely retracted*
- **H** = Mobile point installation height

* based on chain’s minimum length needed to achieve the travel distance.

**Fig. 1**

- **L, LSA** → input data
- **M** → value in catalogue table (Fig. 1). M is determined under point 4, bending radius definition

**Difference between M & M1:**

- **M** → value of the bent chain’s length in self-supporting configurations
- **M1** → value of the bent chain’s length in sliding configurations

Chain bending radius “R”
6 Self-supporting capacity calculation

Pre-set

The pre-set (Pr) is a fundamental feature in cable chains. This determines the self-supporting capacity which allows the cable chain to support not only its own weight, but also the weight of the cables/hoses placed inside. Empty cable chains therefore appear to be curved upwards slightly. Each chain has its own self-supporting diagram, which shows the maximum additional load (Kg/m) that the cable chain can support in relation to the unsupported length LS/2 (m). No support is needed when the cable chain stays below the curve. Cable chains above the curve need to be supported or switched to stronger cable chain or a sliding configuration.

Self-supporting diagram

The curve in the self-supporting diagram (orange line) represents the free deviation length of the cable chain (self-supporting length SL) that nullifies the cable chain’s pre-set with a certain additional load. The light orange area on the left side (the descending line) of the curve takes into account the fact that, for equal sidebands, a wider cable chain corresponds with a bigger weight and therefore a lower capacity to support the additional load of the utilities.

A cable chain can also be used outside its self-supporting area, accepting that the suspended portion of the chain works with a sag. Please also note that cable chains with a sag must be operated with lower speed and acceleration. In addition, the lifetime will be reduced.

INFOBOX

If the application parameters require that the intersection between the two lines falls above the diagram, the chain must be supported or sliding. Please refer to the specific section “self-support diagram and system configurations” on page 39.

For the maximum value of the admissible sag of each series, please contact our technical office.
7 Double-check of selected cable chain type

If the calculated values apply to the properties of the selected cable chain, the selection process is finished. The cable chain dimensions can then be determined: when selecting a chain, available space conditions must match dimensions C and D (Fig. 1). Please check that the overall dimension A is lower than the available space Oz. (See illustration on page 18)

Fig. 1

However if it is necessary to find another chain, the following options are available:

- Selection of a stronger/bigger cable chain type (go back to step 3)
- Cable chain in sliding configuration (go back to step 3)
- Steel cable chain (go back to step 3)
- Possibility to use support rollers (see page 41)

8 Selection of accessories

Necessary accessories need to be specified from relevant product pages, for example end brackets, separators, cable fixing clamps, guiding channels, etc.

Useful tips and recommendations for use of different kinds of cable chain accessories and system configurations in section 3 (from page 33 onwards).

Legend
A - External chain link width
B - External chain link height
C - Inner chain link width
D - Inner chain link height
Section 3
Specific product topics
Cable chain accessories

End brackets

Mounting positions
The mounting positions of the end brackets allow the cable chain to be fixed in the configurations described below. Unless otherwise specified, the chains are supplied with the end brackets mounted in Pos. 1.

<table>
<thead>
<tr>
<th>Position</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Both external radii</td>
</tr>
<tr>
<td>2</td>
<td>External radius &amp; internal radius</td>
</tr>
<tr>
<td>3</td>
<td>Both internal radii</td>
</tr>
<tr>
<td>4</td>
<td>Front</td>
</tr>
<tr>
<td>5</td>
<td>Turned inside</td>
</tr>
<tr>
<td>6</td>
<td>Turned outside</td>
</tr>
</tbody>
</table>

Materials and shapes
End brackets can be delivered in different materials and shapes.

Bracket in “U” shape
Available for small chains in steel or nylon. The correct mounting position must be specified. It is fastened using slots that allow a mounting tolerance.

Bracket in “L” shape
Available in steel or nylon. The correct mounting position must be specified. It is fastened using slots that allow a mounting tolerance.
Bracket in “I” shape
Available in nylon.
The mounting position is automatically determined by the end bracket. It is fastened using holes that require low mounting tolerance.

Universal bracket
Available in nylon.
Different mounting possibilities in one piece.

Locked or pivoting
Depending on the shape or use of the end brackets they can be locked or pivoted.

Locked end bracket
Suggested for standard horizontal or vertical applications.

Pivoting end bracket
Used for sliding applications and rotations.

Due to the dynamic behaviour in sliding applications it is mandatory for the end bracket to be pivoting in order to balance the downward and upward movement of the cable chain while keep following the linear movement of the towing arm.
Fixation devices

Cable clamps, cable combs and fixation profiles are fixation devices. They allow the utilities to be fixed at the end of the chain, which preserves them from unexpected breakage. A minimum distance of 15 x OD of the utility will be left between the last link that bends during the movement of the chain and the position of the fixation system.

Depending on the type of chain, these combs can be found directly integrated into the end bracket (usually for small chains).

Can be mounted as a clip directly on the end bracket cross frame.

For larger cable chain sizes, these combs are mounted as an additional component on a special aluminium profile designed to ensure optimal strength.
Frames

Frame variants

**Nylon open cross frame version**
- Lightness: ****
- Cable harnessing: ***
- Stiffness:*
- Cable protection: **
- Customisation: **
- Price: *

**Protection cross frame version**
- (available in plastic or aluminum)
- Lightness: ***
- Cable harnessing: **
- Stiffness: **
- Cable protection: ****
- Customisation: **
- Price: **

**Aluminum profile cross frame version**
- Lightness: ***
- Cable harnessing: **
- Stiffness:***
- Cable protection: **
- Customisation: ***
- Price: ***

**Rod cross frame version**
- (available in plastic, aluminum or steel)
- Lightness: "
- Cable harnessing: **
- Stiffness: ***
- Cable protection: **
- Customisation: ***
- Price: ***

**Machined cross frame version**
- (available in plastic or aluminum)
- Lightness: ****
- Cable harnessing: **
- Stiffness: ****
- Cable protection: **
- Customisation: ***
- Price: ****

**Custom cross frame version**
- Lightness: ****
- Cable harnessing: ****
- Stiffness: ****
- Cable protection: **
- Customisation: ****
- Price: ****

**Definition of terms**

**Customisation**
Ability to meet the customer’s dimensional requirements.

**Stiffness**
Capacity which has the cross frame to oppose to the elastic deformation caused by a force applied.

**Cable harnessing**
Is related to the utilities (cables/hoses) in the chain.

**Cable protection**
Ability to protect the utilities from external agents and to minimise their wear.

**Legend**

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Frame opening options
Our portfolio contains modular frame opening options for different nylon cable chains:

- The **hinge open frame** stays fixed to the side band, facilitating and speeding up the harnessing operations.

- The **snap open frame** offers the advantage of easy and fast removal and allows the possibility to position the cables in a convenient way. This is mandatory when the cables are already equipped with connectors.

![Frame opening options](image)

Hinge open outside bending radius  
Hinge open inside bending radius  
Snap open outside bending radius  
Snap open inside bending radius  
Universal hinge/snap opening  
Bolted cross frames  

This option allows maximum flexibility during wiring while maintaining a good stiffness of the chain.

This option also offers the possibility to open the chain. This operation requires more time but ensures greater stiffness of the chain.
Separation options

The wide range of separators available for each type of chain allows infinite combinations of use to fit any requirement. As a general rule the separators are mounted in every second chain link. Different mounting frequencies may be required.

For separation systems available for specific chain types, please refer to the respective product pages.

**Side separator:**
The vertical separator which prevents damage to the utilities caused by their contact and wearing against the chain sidebands or is used to keep horizontal separators in position.

**Internal vertical separators:**
All types of separators which are not side separators.

**Other vertical separator types:**

**Horizontal separation options work with:**

- Vertical fixed or mobile separator (Fig. 1)
- Halfway separator
- Halfway mobile separator
- Horizontal separator for “T”/ “L” shape (Fig. 3)
- Vertical separator for “T” and “L” shape (Fig. 3)

- Vertical fixed or mobile separator for divisor rollers (Fig. 1)
- Halfway mobile separator
- Horizontal separator
- Vertical separator for “T”/ “L” shape (Fig. 3)
- Vertical separator for “T” and “L” shape (Fig. 3)
Self-supporting diagram

There are two ways to work with the self-supporting diagram (Fig. 1):

A. Starting from the additional load (so from the cross section sizing), the maximum self-supporting length that the chain can reach can be checked

B. Starting from the self-supporting length (so from the system configuration), the maximum additional load that the chain can support can be checked

The list of utilities that the system should drag is called the input data. To carry additional loads, often the only way is to use more than one chain, distributing it on more chains (nested, side by side or in a ring configuration). In accordance with this, the self-supporting diagram is used in the “B” option, mainly at the beginning of system dimensioning, when the decision needs to be made to use one or more chains.

After determining the chain number and distributing of utilities among them, use the diagram in the way “A” to define the configuration of the cable chain system. This just relates to self-supporting configurations with fixed point in centre position, SSL = LS/2.

The horizontal axis represents the maximum self-supporting length SSL of the configuration (often mistakenly defined as half of the travel distance LS/2).

Looking at the diagram (Fig. 2), and working in the way “B”, the green line level is fixed (because the additional load is determined). Viceversa, the vertical blue line moves to the right increasing the travel distance. When the maximum self-supporting length is exceeded, a configuration has to be chosen that supports the chain in a better way.

Generally there are no limitations in the number of support rollers. However, if the stroke exceeds its capacity (Max SSL < LS/4) sliding configurations or other system accessories have to be used such as supporting hooks, side rails or trolleys.

INFOBOX

The self-supporting diagram is determined by testing the chain when it is new. But the self-supporting performance of the chain declines as wear and tear increases, so a used chain has less self-supporting capacity than a new one. This must be considered in the calculation of the system requirements.

If your application results are close to the limit values, please contact our technical office for additional evaluations.

Consideration of fixed point in centre position:

- Self-supporting applications → SSL = LS/2
- Supported application with 1 support roller on the extended side of the stroke → SSL = LS/3 (single support roller should be positioned at a distance of LS/3 from the extended end of the stroke) (Fig. 3)
- Supported application with 2 support rollers on the extended side of the stroke → SSL = LS/4 (the two support rollers should be positioned at the centre and at ¼ of the travel distance) (Fig. 4)

SSL = Self-supporting length
System configurations

Depending on the ratio between the travel distance $LS$ of the mobile point and the self-supporting length $SSL$, there are different possible configurations:

**Additional load**

- **Self-supporting without sag**
  
  $LS/2 < SSL$ (red curve) →

- **Self-supporting with sag**
  
  $LS/2 < SSL$ (green curve) →

- **Supported on the extended side**
  
  $LS/2 > SSL > Lc/4$ →

- **Supported on the retracted side**
  
  $LS/4 > SSL > Lc/8$ →

- **Supported on the whole length**
  
  $LS/8 > SSL$ →

- **Sliding**
  
  $LS/8 > SSL$ →

The chain section that is not possible to support is highlighted in red. The combination of additional load and self-supporting length must remain lower than the self-supporting curve of the diagram.

**Self-supporting configuration**

In self-supporting configuration, the chains work with or without sags. The advantages are:

**Self-supporting chains without sag**

- Operate with higher speed and acceleration
- Stress chain and cables less, so the operational life is longer

**Self-supporting chains with sag**

- Reach longer travel distances
- Sometimes the cheaper solution due to smaller cable chain sizes

**All the self-supporting configurations**

- Do not require a guiding channel but at least a ground channel on the retracted side (see page 41)
- Require a strain relief mounted on both ends (see page 50/51)
- Are manufactured with pre-set
- Must be connected at installation height $H$ or higher (not lower)
- Have less wear than sliding configurations (no friction between chain when operating)
- Increasing pre-tension may increase the self-supporting length
- The end brackets need to carry the system’s complete load (weight of chain & cables plus dynamic forces)

*Among the three configuration options, the sliding configuration guarantees longer travel distances and is more cost effective since no side rails and trolleys are needed.*
Supported configurations

Support rollers
In case of supported cable chain configurations, different kinds of support rollers can be used. See dimensions of our standard rollers in the table below.

Many different custom types can be created upon request.

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>X</th>
<th>Y</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nylon</td>
<td>A-23</td>
<td>\</td>
<td>A+60</td>
</tr>
<tr>
<td>Steel</td>
<td>20</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>130</td>
<td>180</td>
</tr>
</tbody>
</table>

Guiding channels/ground channels

<table>
<thead>
<tr>
<th>Chain Series</th>
<th>A5</th>
<th>H</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 - 250</td>
<td>A + 2mm</td>
<td>10</td>
<td>1.5</td>
</tr>
<tr>
<td>325</td>
<td>A + 2mm</td>
<td>25</td>
<td>1.5</td>
</tr>
<tr>
<td>308 - H57 - 30</td>
<td>A + 2mm</td>
<td>40</td>
<td>1.5</td>
</tr>
<tr>
<td>475 - 309 - H80</td>
<td>A + 2mm</td>
<td>50</td>
<td>1.5</td>
</tr>
<tr>
<td>35</td>
<td>A + 2mm</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>40 - 42</td>
<td>A + 4mm</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>45</td>
<td>A + 4mm</td>
<td>70</td>
<td>4</td>
</tr>
<tr>
<td>H110</td>
<td>A + 4mm</td>
<td>80</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Legend

- X → Distance between fixing holes
- Y → Distance between fixing holes
- A → External chain link width
- L → Max. width of support roller
- A5 → Internal base width of channel
- H → Max. height of channel
- S → Thickness of channel
- 2R → Double radius
**Sliding configurations**

In case of sliding applications, the cable chain works in combination with other mechanical elements, so as the required performances increase (travel distance, speed, acceleration, duty cycles), the level of complexity increases.

**Sliders**

Our chain series for sliding applications are designed to minimise friction and wearing even with heavy loads. Therefore the sliders integrated into the link are made with low friction polymers to increase the contact surface.

In some series the sliders are easily removable so that:

- In case of maintenance, only the wearing parts have to be replaced, reducing the maintenance costs and increasing the working life of the system
- The sidebands and the sliders on the chain can use different polymers according to the different functions of the parts of the chain

The dimensions of the sliders allow the chain to keep itself stable. Even in applications with high accelerations.

**INFOBOX**

In order to achieve the best functionality result the distance between the fixed point of the cable chain and the beginning of the supports mounted on the extended side of the guide channel has to be as small as possible - however not more than 500 mm.

The materials available for the channels are: Zinc-plated steel, stainless steel AISI 304 or 316L, Aluminum.

**Sliding with single chain**

To properly operate in sliding configuration, the cable chains require the use of a guide channel.

In single chain applications, along the retracted side of the travel distance the chain slides on itself, while the extended side of the travel distance is supported by suitable supports mounted directly on the side of the guide channel.

**Sliding with multiple chains**

In applications with two cable chains in ring configuration, the chains slide on themselves in both directions, so there are no supports along the entire guide channel (except between the two fixed points, in case they are far away from each other).

Upon request, it is possible to produce cable chains with special polyamides for applying in particularly aggressive environments. Ask our technical office for additional information.
Correct mounting of guiding channels
It is very important that the cable chain can move freely along the whole travel length. To guarantee optimal and friction-free guidance of the cable chain, the guiding channel must be mounted:

- As level as possible (both in longitudinal and transversal direction (Fig. 2) - to avoid additional friction between the upper chain and the lower chain (or the supports) or to avoid possible lifting of the cable chain
- As straight as possible to avoid friction between the sidebands and the walls of the channel (Fig. 3)

Despite the precautions taken in the assembly phase, it may be that the channel is not aligned with the movement of the towing arm. If the maximum disalignment between the guide channel line and the movement of the towing arm is bigger than ±4mm (Fig. 4), it is necessary to recover this gap using a misalignment recovery system mounted on the mobile point of the cable chain (Fig. 1).
Different channel options

<table>
<thead>
<tr>
<th>Open channels</th>
<th>Retracted side</th>
<th>Extended side</th>
</tr>
</thead>
<tbody>
<tr>
<td>without supports</td>
<td>CS</td>
<td>CA</td>
</tr>
<tr>
<td>with angulars</td>
<td>CA(C)</td>
<td>CP(C)</td>
</tr>
<tr>
<td>with glide profiles</td>
<td>CP</td>
<td>CR(C)</td>
</tr>
<tr>
<td>with wheels</td>
<td>CR</td>
<td></td>
</tr>
</tbody>
</table>

Closed channels

Steel closed channels can be used (on the extended side of the travel distance only) to prevent possible lifting of the chain. Suggested for travel distances LS >40 -50m.

<table>
<thead>
<tr>
<th>CA(C)</th>
<th>CP (C)</th>
<th>CR (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angular</td>
<td>Profiles</td>
<td>Wheels</td>
</tr>
<tr>
<td>Friction</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Noise</td>
<td>*</td>
<td>***</td>
</tr>
<tr>
<td>Price</td>
<td>*</td>
<td>***</td>
</tr>
</tbody>
</table>

(C) = closed · *** = high → * = low
Vertical application

Vertical application means that the direction of motion is vertical and the arc of the chain radius doesn’t touch the ground or the ceiling.

There are two different options
- Hanging applications → the chain is suspended and the arc of the chain radius is at the bottom (Fig. 1)
- Standing applications → the arc of the chain radius moves upward on top of the chain (Fig. 2)

Cable fixation

In all the vertical applications
- chain’s only function is to contain and protect cables and hoses. The utilities should bear their own weight without loading the chain
- Cables/hoses have to be fixed on both ends using the appropriate accessories (strain relief) and should not touch the cable chain (Fig. 3)
- Locking end brackets should be used

Hanging applications

A cable chain is far less stressed and more stable in a hanging application. In addition, transversal accelerations can happen (in the event of side winds or if the cable chain is installed on moving machinery). The following must be considered:

- If the application only concerns a vertical movement, the cable chain does not need any specific support
- If the chain is affected by transversal accelerations (Fig. 4), a support (guide trough) is required
- For special applications, frames with completely closed guiding systems are available
**Vertical applications at a glance**

<table>
<thead>
<tr>
<th>Working parameters</th>
<th>Vertical hanging applications</th>
<th>Vertical standing applications</th>
</tr>
</thead>
</table>
|                    | Max. travel length: 100m      | Max. travel length (without support): 4m  
Max. travel length (with support): 6m  
Max. travel length (with full support): 14m |
| Pre-set (Pr)       | A normal chain with pre-set can be used, if there is enough space for the installation. In case of reduced available space, a chain without pre-set must be used*. | A normal chain should be used, and the customer should consider the pre-set in calculating the space for the installation. |
| Installation space** | Without pre-set: 2x(R + S) + B | With pre-set: 2x(R + S + Pr) + B |
| Layout             | • Layout of cables/hoses inside the cross section is secondary, since they are strain relieved and suspended on both ends  
• Separations inside the cross section are not mandatory but suggested | • The layout of cables/hoses inside the cross section is symmetrical and should be strain relieved at both ends and stand without loading the chain  
• Vertical separators are recommended to allow the utilities to move freely inside the chain |

*Our recommendation: vertical applications without pre-set.

** R = Chain bending radius  
Pr = Chain pre-set  
S = Thickness of the guide trough channel  
B = Outside height of the chain
Side mounted configurations

Side mounted application means that the chain works mounted on its side. This configuration becomes necessary when there is a limited space upwards and mounting the cable chain would normally take up too much space, or when the additional load of the utilities exceeds the maximum self-supporting capability of the chain but for some reason the sliding configuration cannot be used.

The following options are available:
- Supported applications where the cable chain is moving on a floor, inside a guide channel (Fig. 1), for example in long travel distance applications
- Suspended applications where the cable chain is not supported from the bottom, for example in machine tools. In this case at least the first three links near both the mobile and the fixed point should be supported from the bottom (Fig. 2), depending on factors like travel distance, additional load, unsupported length. Note: this configuration can place excessive stress on the cable chain.

In a supported application, to have a smooth movement and reduce the friction between the cable chain and the carpentry floor, the use of anti-friction skids or pivoting wheels is recommended (Fig. 3).

Spacers

Particular attention should be paid to determine the section of the cable chain. In fact, mounting the chain on its side means that cables/hoses have a tendency to bunch towards the ground and get squashed. To avoid this, spacers can be mounted between the vertical separators to hold them (and the utilities) in position (Fig. 4). The vertical separators (and their fixation to the cross frames) are also designed to resist cables’ additional load. The heavier utilities should be positioned at the bottom to reduce the stress on the cross bars. In case of lay on side machined cross frames can also be used to hold in position the utilities and maintain them in line with the neutral axe of the chain reducing the stress (Fig. 5).

Since pivoting wheels reduce the stability of the cable chain they must be used in combination with a guidance system.
Rotary applications

The rotary configuration is a specific application that allows rotations between fixed and mobile points. This configuration is an alternative when the ROBOT series cannot be used (e.g. limited space conditions or incompatibility of the available diameters for the installation).

If the cable chain operates while mounted all the considerations made for the supported lay-on side applications are still valid for the rotary one. In this configuration, the cable chain links must rotate each other in both directions, so the chain has a bending radius and a counter bending radius (Fig. 1). All chains (except the PROTECTION series) can be delivered with this counter-radius.

Possible rotary configuration options (Fig. 2)

- For single applications, the chain is guided by the housing only. For multi-chain applications, the chains are in a ring configuration (1 or 2 chains for each half ring) and are guided in their movement by an inner movable frame.

For applications with rotations over 180°, it is necessary to use a multi-chain configuration. The maximum rotation achievable depends on the system geometry. Rotation up to 600° could be possible.

- For fixed housing, the chain moving inside the housing is pulled and pushed by the towing arm, and there is sliding motion between the chain and the floor of the housing.
- In movable housing, the housing is divided into two parts concentric to each other, one of which is fixed (connected to the fixed point of the chain) and the other is movable (connected to the mobile point of the chain). There is no relative movement between the chain and the housing, except for the links which are on the bending radius.

The movable housing option reduces the wearing of the links but requires a very precise installation to guarantee the planarity of the two floors of the housing (movable and fixed) and their concentricity. Whether the movable point is positioned inside or outside the diameter depends on the motion pattern of the application.

Inner frames

Inner frame moves on anti-friction skids or pivoting wheels (Fig. 3) and, in combination with the guide housing, guarantees the guide of the chains.
Robot chain applications

The “ROBOT” chain series is a series that, due to the particular construction of the links, enables them to rotate around two axes in a natural way.

This concept is specifically designed for use in combination with anthropomorphic (= humanlike) robots, and allows rotation of up to 540°.

Basically the chain works like any other self-supporting or supported configuration, the only difference being that the movement of the mobile point is a rotation instead a translation (Fig. 1). The chains from the “ROBOT” series are self-supporting and they do not need any support up to 200°.

Accessories

Applications with rotations require the use of their own appropriate accessories:

- Base cradle (Fig. 2), that functions as a channel guide in linear movement and guides the lower part of the cable chain.

For applications with rotations exceeding 200°, we have developed the following supports for guide the chain:

- Supporting rollers (Fig. 3) that can support the chain on the extended side of the travel distance
- Supporting hooks (Fig. 4) that can support the chain also on the retracted side of the travel distance

When the use of one cable chain is not sufficient to contain all the cables/hoses, it is possible to use several chains in the same application increasing the space holding them. The “ROBOT” chain series can be customised for special application needs. Please contact our technical office for more information.
ÖLFLEX® FD/CHAIN, UNITRONIC® FD, ETHERLINE® FD and HITRONIC® FD cables in cable chains

1. Power chains must be selected in accordance with the relevant project documentation of the chain manufacturers. The bending radius must comply with the minimum bending radius of the cables. If possible, we recommend avoiding a multi-layer cable configuration, i.e. >25 cores, and instead distributing the required quantity amongst several cables.

2. The cables must be unreeled from the ring or drum free of any twists (at a tangent) and must be laid out straight. This work should be carried out before starting the installation works so that the cables can relax in this time. Due to the manufacturing process, the markings on the cables run round in a gentle spiral. Therefore this cannot be used to ensure that the cables have been straightened out without any twists.

3. The cable temperature should not drop below +5°C at any point during installation.

4. The cables also need to be installed without any twisting when inserted into the chambers. If a cable is twisted during installation, it can lead to premature damage to the core stranding. This effect can be reinforced during operation and result in so-called corkscrewing. This leads to core breaks, which ultimately cause malfunctions.

5. The cables must lie loosely next to each other in the chain chambers. They should be separated as much as possible using separators. The clearance between the cables and the cross bar, the separators or the neighbouring cables should be at least 10% of the cable diameter.

6. The cables should be installed symmetrically in terms of their weight and size; those with greater diameters and weights on the outside, those with smaller diameters and weights on the inside. They can also be placed in descending size order from inside to outside. Avoid arranging the cables above one another without the use of a shelf.

7. If the chain configurations are suspended vertically, additional free space must be provided in terms of the stay height, as the cables are lengthened during operation. After a short period of operation time, it is important to check whether the cables are still running along the neutral zone. It may be necessary to readjust them.

8. With self-supporting chain configurations, a cable is fastened both to the moving point and to the fixed point. Suitable cable supports of the chain manufacturer should be used here. With high accelerations, cable ties only have limited suitability. Avoid tying multiple cables together. The cables must not be secured or in any way bound together in the moving part of the chain. The clearance between the fixed point and the bending movements should be sufficiently wide.
9. With sliding chains, we recommend that the cable only be fastened to the moving point. A small cable reserve should be factored in at the fixed point. (Note the assembly instructions of the chain manufacturer).

10. Make sure that the cables in the bending radius run in the neutral zone, i.e. there must be no forced guidance through the chain in the inner or outer radius, so that the cables can still move relative to one another and to the chain. (Fig. 1)

11. If a cable does not run smoothly, i.e. if it becomes twisted along the longitudinal axis during operation, the cable should be rotated gradually at one of the fastening points until it runs smoothly again.

12. The length-changing characteristics of a cable and a chain differ considerably from one another in terms of their absolute sizes. In the first few hours of operation, cables undergo natural lengthening. With chains, it takes many hours of operation for this effect to take place. This oppositional behaviour should be addressed by regularly checking the installation position of the cables. We recommend carrying out the inspections regularly, every three months, in the first year of operation – after they should be carried out whenever a maintenance interval is due. This involves checking that the cables in the bending radius can move completely freely. It may be necessary to make readjustments. We recommend incorporating the maintenance instructions into the inspection plan of the system.

13. The travel distance (LS) results from 2 x chain length (L)
Product selection
Page

Chain series

Nylon cable chains for multiple applications
56
SILVYN® CHAIN 200
58
SILVYN® CHAIN 250L/LI/LE
64
SILVYN® CHAIN 325L/LI/LE
70
SILVYN® CHAIN 325PI
72
SILVYN® CHAIN 335L/LI/LE
78
SILVYN® CHAIN 335PS
80
SILVYN® CHAIN 435MU
82
SILVYN® CHAIN 435PU
84
SILVYN® CHAIN 445MU
86
SILVYN® CHAIN 445PU
88
SILVYN® CHAIN 445AU
90
SILVYN® CHAIN 445PS
92
SILVYN® CHAIN 660A
94
SILVYN® CHAIN 660
96
SILVYN® CHAIN 770A
98
SILVYN® CHAIN 770
100
SILVYN® CHAIN 475MU
102
SILVYN® CHAIN 475PU
104
SILVYN® CHAIN 306SU
106
SILVYN® CHAIN 306CU
108
SILVYN® CHAIN 306B
110
SILVYN® CHAIN 307SU
112
SILVYN® CHAIN 307B
114
SILVYN® CHAIN 307E
116
SILVYN® CHAIN 308SU
118
SILVYN® CHAIN 308CU
120
SILVYN® CHAIN 308B
122
SILVYN® CHAIN 308E
124
SILVYN® CHAIN 309SU
126
SILVYN® CHAIN 309CU
128
SILVYN® CHAIN 309B
130
SILVYN® CHAIN 309T
Nylon cable chains for heavy duty applications
140
SILVYN® CHAIN H45SC
142
SILVYN® CHAIN H57SC
144
SILVYN® CHAIN H57PN
144
SILVYN® CHAIN H57PC
146
SILVYN® CHAIN H57B
148
SILVYN® CHAIN H57T
150
SILVYN® CHAIN H80SC/SA
152
SILVYN® CHAIN H80PC/PA
154
SILVYN® CHAIN H80B
156
SILVYN® CHAIN H80T
158
SILVYN® CHAIN H110SC/SA
160
SILVYN® CHAIN H110PC/PA
162
SILVYN® CHAIN H110B
164
SILVYN® CHAIN H110T
Nylon cable chains for sliding applications
174
SILVYN® CHAIN 326SU
176
SILVYN® CHAIN 326B
178
SILVYN® CHAIN 328SU
180
SILVYN® CHAIN 328B
182
SILVYN® CHAIN 329SU
184
SILVYN® CHAIN 329CD
186
SILVYN® CHAIN 329B
188
SILVYN® CHAIN 478MU
190
SILVYN® CHAIN 478PU
192
SILVYN® CHAIN 60PU
194
SILVYN® CHAIN 60VU
196
SILVYN® CHAIN 80PU
Steel cable chains for multiple applications
208
SILVYN® CHAIN 20LT
210
SILVYN® CHAIN 20LC
212
SILVYN® CHAIN 30LT
214
SILVYN® CHAIN 30LC
216
SILVYN® CHAIN 35LT
218
SILVYN® CHAIN 35LC
220
SILVYN® CHAIN 40LT
222
SILVYN® CHAIN 40LC
224
SILVYN® CHAIN 42LT
226
SILVYN® CHAIN 45T
Steel cable chains for sliding applications
230
SILVYN® CHAIN 20LPT
232
SILVYN® CHAIN 20LPC
234
SILVYN® CHAIN 30LPT
236
SILVYN® CHAIN 30LPC
238
SILVYN® CHAIN 35LPT
240
SILVYN® CHAIN 35LPC
242
SILVYN® CHAIN 40LPT
244
SILVYN® CHAIN 40LPC
246
SILVYN® CHAIN 42LPT
Cable chains for robot applications
254
SILVYN® CHAIN 495
256
SILVYN® CHAIN 500
258
SILVYN® CHAIN 510TN
258
SILVYN® CHAIN 515TN
260
SILVYN® CHAIN 545
262
SILVYN® CHAIN 599
264
SILVYN® CHAIN MULTIFLEX

52

Inner width

from (mm)

to (mm)

12
15
40
10
40
40
40
40
50
50
50
61
50
50
45
85
74
74
43
43
75
42
75
75
38
38
100
100
64
64
100
100

Inner height

Outer width

Outer height

mm

from (mm)

to (mm)

mm

35
50
103
103
150
150
150
150
362
362
362
125
362
150
357
250
498
374
355
355
300
354
300
300
350
350
300
300
400
488
400
400

12
17
25
25
35
35
35
35
45
45
45
45
37
36
60
51
75.5
75.5
37
37
30
47
40
46.5
57
57
48
56.5
75.5
75.5
70
73

18
26
57
57
56.5
56.5
60
60
72
72
72
83
75
79
80
120
112
110
79
79
115
80
117
113
82
82
156
144
120
120
156
156

41
61
120
120
166.5
166.5
170
170
384
384
384
147
387
179
392
285
536
410
391
391
340
392
342
338
394
394
356
344
456
544
456
456

15
23
38
38
50
50
49
48
64
64
64
64
55
55
78
78
100.5
100.5
55
55
55
65
65
65
75
75
75
75
100
100
100
100

75
75
150
75
100
100
64
74
100
100
200
200
200
200

400
500
250
400
400
400
400
498
500
500
600
498
600
600

45
57
53.5
53.5
57
57
80
77
81
81
112
105
112
112

113
113
188
113
138
138
120
129
155
155
260
255
255
255

438
538
288
438
438
438
456
553
555
555
660
553
655
655

70
85
85
85
85
85
100
114
114
114
150
155
155
155

61
75
61
100
64
64
100
74
74
115
115
115

373
300
373
300
488
488
400
498
498
539
539
539

37
37
57
48
75.5
75.5
70
75.5
75.5
60.5
60.5
80.5

89
115
116
162
128
128
164
112
112
165
165
195

416
340
428
362
552
552
464
536
536
589
589
619

59
59
79
79
107
107
107
106.5
106.5
90
90
117

79
79
106
106
104
104
150
150
150
300

304
304
506
506
504
504
500
500
500
600

32
32
52
52
65
65
112.5
112.5
138
182

111
111
140
140
148
148
208
208
208
390

336
336
540
540
548
548
558
558
558
690

53
53
74
74
95
95
145
145
175
220

79
79
106
106
104
104
150
150
150

304
304
506
506
504
504
500
500
500

32
32
52
52
65
65
112.5
104
138

121
121
151
151
148
148
230
230
230

346
346
551
551
548
548
580
580
580

58.5
58.5
81.5
81.5
107
107
161.5
161.5
191.5

45
65
88
88
62
210
63

63

35
30
46
46
46
59
63

69
93
132
132
123
272
77

77

45
43
55
55
62
85
77


## Steel Cable Chains for Multiple Applications

<table>
<thead>
<tr>
<th>Chain Series</th>
<th>Inner Width</th>
<th>Inner Height</th>
<th>Outer Width</th>
<th>Outer Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 200</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 250L/LI/LE</td>
<td>58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 325L/LI/LE</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 325PI</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 335L/LI/LE</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 435PS</td>
<td>78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 435PU</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 445MU</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 445PU</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 445SU</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 445PS</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 660A</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 660</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 770A</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 475MU</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 475PU</td>
<td>102</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 304SU</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 304B</td>
<td>108</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 307SU</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 307B</td>
<td>112</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 307E</td>
<td>114</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 308SU</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 308CU</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 308B</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 308E</td>
<td>122</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 309SU</td>
<td>124</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 309C</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 309B</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SILVYN® CHAIN 309T</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Nylon Cable Chains for Heavy Duty Applications

<table>
<thead>
<tr>
<th>Chain Series</th>
<th>Pitch</th>
<th>Bending Radius</th>
<th>Self Supporting Capacity</th>
<th>Sliding Application</th>
<th>Protection Cover</th>
<th>Chain Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN H455SC</td>
<td>140</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H575C</td>
<td>142</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H575N</td>
<td>144</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57PC</td>
<td>144</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57B</td>
<td>146</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57T</td>
<td>148</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H805A</td>
<td>150</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80PA</td>
<td>152</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80B</td>
<td>154</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80T</td>
<td>156</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H1105C</td>
<td>158</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110PC</td>
<td>160</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110B</td>
<td>162</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110T</td>
<td>164</td>
<td>-</td>
<td>-</td>
<td>On request</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

## Nylon Cable Chains for Sliding Applications

<table>
<thead>
<tr>
<th>Chain Series</th>
<th>Pitch</th>
<th>Bending Radius</th>
<th>Self Supporting Capacity</th>
<th>Sliding Application</th>
<th>Protection Cover</th>
<th>Chain Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 326SU</td>
<td>174</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 326B</td>
<td>176</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 328SU</td>
<td>178</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 328B</td>
<td>180</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 329SU</td>
<td>182</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 329B</td>
<td>184</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 329B</td>
<td>186</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 478MU</td>
<td>188</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 478PU</td>
<td>190</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 460PU</td>
<td>192</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 690U</td>
<td>194</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 460U</td>
<td>196</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

## Steel Cable Chains for Multiple Applications

<table>
<thead>
<tr>
<th>Chain Series</th>
<th>Pitch</th>
<th>Bending Radius</th>
<th>Self Supporting Capacity</th>
<th>Sliding Application</th>
<th>Protection Cover</th>
<th>Chain Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 320L</td>
<td>208</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 360L</td>
<td>210</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 390L</td>
<td>212</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 350L</td>
<td>214</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 350L</td>
<td>216</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 350L</td>
<td>218</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 400L</td>
<td>220</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 400L</td>
<td>222</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 400L</td>
<td>224</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 451</td>
<td>226</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

## Steel Cable Chains for Sliding Applications

<table>
<thead>
<tr>
<th>Chain Series</th>
<th>Pitch</th>
<th>Bending Radius</th>
<th>Self Supporting Capacity</th>
<th>Sliding Application</th>
<th>Protection Cover</th>
<th>Chain Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 20LPT</td>
<td>230</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 20LP</td>
<td>232</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 30LP</td>
<td>234</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 30LP</td>
<td>236</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 35LP</td>
<td>238</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 40LP</td>
<td>240</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 40LP</td>
<td>242</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 42LP</td>
<td>244</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>SILVYN® CHAIN 42LP</td>
<td>246</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>
## Nylon cable chains for multiple applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 200</td>
<td>56</td>
</tr>
<tr>
<td>SILVYN® CHAIN 250L/LI/LE</td>
<td>58</td>
</tr>
<tr>
<td>SILVYN® CHAIN 325L/LI/LE</td>
<td>64</td>
</tr>
<tr>
<td>SILVYN® CHAIN 325PI</td>
<td>70</td>
</tr>
<tr>
<td>SILVYN® CHAIN 335L/LI/LE</td>
<td>72</td>
</tr>
<tr>
<td>SILVYN® CHAIN 335PS</td>
<td>78</td>
</tr>
<tr>
<td>SILVYN® CHAIN 435PU</td>
<td>80</td>
</tr>
<tr>
<td>SILVYN® CHAIN 435PU</td>
<td>82</td>
</tr>
<tr>
<td>SILVYN® CHAIN 445MU</td>
<td>84</td>
</tr>
<tr>
<td>SILVYN® CHAIN 445PU</td>
<td>86</td>
</tr>
<tr>
<td>SILVYN® CHAIN 445AU</td>
<td>88</td>
</tr>
<tr>
<td>SILVYN® CHAIN 445PS</td>
<td>90</td>
</tr>
<tr>
<td>SILVYN® CHAIN 660</td>
<td>92</td>
</tr>
<tr>
<td>SILVYN® CHAIN 660A</td>
<td>94</td>
</tr>
<tr>
<td>SILVYN® CHAIN 770</td>
<td>96</td>
</tr>
<tr>
<td>SILVYN® CHAIN 770A</td>
<td>98</td>
</tr>
<tr>
<td>SILVYN® CHAIN 475MU</td>
<td>100</td>
</tr>
<tr>
<td>SILVYN® CHAIN 475PU</td>
<td>102</td>
</tr>
<tr>
<td>SILVYN® CHAIN 306SU</td>
<td>104</td>
</tr>
<tr>
<td>SILVYN® CHAIN 306CU</td>
<td>106</td>
</tr>
<tr>
<td>SILVYN® CHAIN 306B</td>
<td>108</td>
</tr>
<tr>
<td>SILVYN® CHAIN 307SU</td>
<td>110</td>
</tr>
<tr>
<td>SILVYN® CHAIN 307B</td>
<td>112</td>
</tr>
<tr>
<td>SILVYN® CHAIN 307E</td>
<td>114</td>
</tr>
<tr>
<td>SILVYN® CHAIN 308SU</td>
<td>116</td>
</tr>
<tr>
<td>SILVYN® CHAIN 308CU</td>
<td>118</td>
</tr>
<tr>
<td>SILVYN® CHAIN 308B</td>
<td>120</td>
</tr>
<tr>
<td>SILVYN® CHAIN 308E</td>
<td>122</td>
</tr>
<tr>
<td>SILVYN® CHAIN 309SU</td>
<td>124</td>
</tr>
<tr>
<td>SILVYN® CHAIN 309CU</td>
<td>126</td>
</tr>
<tr>
<td>SILVYN® CHAIN 309B</td>
<td>128</td>
</tr>
<tr>
<td>SILVYN® CHAIN 309T</td>
<td>130</td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide Channel</td>
<td>132</td>
</tr>
<tr>
<td>Separation System</td>
<td>204</td>
</tr>
<tr>
<td>Cable Strain Relief Systems</td>
<td>266</td>
</tr>
</tbody>
</table>
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 200
Nylon cable chain with non-openable frames

Technical data
- Inner Height (D): 12 mm
- Pitch (P): 17 mm
- Speed: 10 m/s
- Acceleration: 50 m/s²

### Technical data table

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>15</td>
<td>12</td>
<td>12</td>
<td>018-030-040</td>
<td>0.13</td>
<td>20012□□□</td>
</tr>
<tr>
<td>31</td>
<td>15</td>
<td>25</td>
<td>12</td>
<td>018-030-040</td>
<td>0.14</td>
<td>20025□□□</td>
</tr>
<tr>
<td>41</td>
<td>15</td>
<td>35</td>
<td>12</td>
<td>018-030-040</td>
<td>0.15</td>
<td>20035□□□</td>
</tr>
</tbody>
</table>

□□□ to be filled with Radius R

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

L = LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>20012□□□□</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>20025□□□□</td>
<td>41</td>
<td>13</td>
</tr>
<tr>
<td>20035□□□□</td>
<td>51</td>
<td>23</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  - AN200□□KM□
- Complete Set Unassembled
  - AN200□□K

□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 250L
Nylon cable chain with non-openable frames

Technical data

- Inner Height (D): 17 mm
- Pitch (P): 29 mm
- Height Moving Point (W): 100 mm
- Speed: 10 m/s
- Acceleration: 50 m/s²

Separator
- Unassembled Article number S250L
- Assembled Article number S250LMC

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>250L015□□□</td>
<td>11</td>
</tr>
<tr>
<td>250L025□□□</td>
<td>11</td>
</tr>
<tr>
<td>250L035□□□</td>
<td>21</td>
</tr>
<tr>
<td>250L050□□□</td>
<td>36</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers

| Complete Set Assembled | AN250L□□□KM□ |
| Complete Set Unassembled | AN250L□□□K□  |

□□□ Inner width (C)
□□□ Possible mounting positions: 1/2/3/5/6 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 250LI
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 mm</td>
<td>29 mm</td>
<td>100 mm</td>
<td>10 m/s</td>
<td>50 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S250L
Assembled Article number S250LMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>250L015C</td>
<td>0.34</td>
<td>250L015C</td>
</tr>
<tr>
<td>250L025C</td>
<td>0.37</td>
<td>250L025C</td>
</tr>
<tr>
<td>250L035C</td>
<td>0.40</td>
<td>250L035C</td>
</tr>
</tbody>
</table>

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

For current information see: [www.lappgroup.com](http://www.lappgroup.com)
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>250LI015</td>
<td>11</td>
</tr>
<tr>
<td>250LI025</td>
<td>11</td>
</tr>
<tr>
<td>250LI035</td>
<td>21</td>
</tr>
<tr>
<td>250LI050</td>
<td>36</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers

- Complete Set Assembled
  - AN250L□□□KM□
- Complete Set Unassembled
  - AN250L□□□K□

□□□ Inner width (C)
□ Possible mounting positions:
1/2/3/5/6 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 250LE
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 mm</td>
<td>29 mm</td>
<td>100 mm</td>
<td>10 m/s</td>
<td>50 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S250L
Assembled Article number S250LMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
**End brackets**

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Nylon Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>250LE015□□□</td>
<td>11</td>
</tr>
<tr>
<td>250LE025□□□</td>
<td>11</td>
</tr>
<tr>
<td>250LE035□□□</td>
<td>21</td>
</tr>
<tr>
<td>250LE050□□□</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nylon Type Part Numbers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
<td>AN250L□□□XM□</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
<td>AN250L□□□□□□</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)

Possible mounting positions:

1/2/3/5/6 (acc. to page 33)
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 325L
Nylon Cable Chain

Technical data
- Inner Height (D) 25 mm
- Pitch (P) 45 mm
- Height Moving Point (W) 140 mm
- Speed 10 m/s
- Acceleration 50 m/s²

Separator
- Unassembled Article number S325L
- Assembled Article number S325LMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>325L40□□□</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>325L60□□□</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>325L76□□□</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>325L103□□□</td>
<td>114</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nylon Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>AN325L□□□KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>AN325L□□□K</td>
</tr>
<tr>
<td>Tiewarp Clamp Part Numbers</td>
</tr>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>CFC325L□□□KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>CFC325L□□□K</td>
</tr>
<tr>
<td>Part Number Reducer Set</td>
</tr>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>AQF325K</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A325LKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A325LK</td>
</tr>
<tr>
<td>Tiewarp Clamp Part Numbers</td>
</tr>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>CFC325L□□□KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>CFC325L□□□K</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 325LI
Nylon Cable Chain with opening frames

Technical data
- Inner Height (D) 25 mm
- Pitch (P) 45 mm
- Height Moving Point (W) 140 mm
- Speed 10 m/s
- Acceleration 50 m/s²

Separator
Unassembled Article number S325L
Assembled Article number S325LMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Separator
Unassembled Article number S325L
Assembled Article number S325LMC
MCI: chain opening outer radius
MCE: chain opening inner radius

A  B  C  D  R  Weight  Article number
57 38 40 25 050-060-075-100-125-150 0.90 325LI040□□□
77 38 60 25 050-060-075-100-125-150 0.95 325LI060□□□
93 38 76 25 050-060-075-100-125-150 1.05 325LI076□□□
120 38 103 25 050-060-075-100-125-150 1.15 325LI103□□□

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>325L40□□□</td>
<td>51</td>
</tr>
<tr>
<td>325L60□□□</td>
<td>71</td>
</tr>
<tr>
<td>325L76□□□</td>
<td>67</td>
</tr>
<tr>
<td>325L103□□□</td>
<td>114</td>
</tr>
</tbody>
</table>

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>325L40□□□</td>
<td>25.5</td>
<td>22</td>
</tr>
<tr>
<td>325L60□□□</td>
<td>45.5</td>
<td>42</td>
</tr>
<tr>
<td>325L76□□□</td>
<td>61.5</td>
<td>58</td>
</tr>
<tr>
<td>325L103□□□</td>
<td>88.5</td>
<td>85</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN325L□□□KM
- Complete Set Unassembled: AN325L□□□K

Tie-wrap Clamp Part Numbers
- Complete Set Assembled: CFC325L□□□KM
- Complete Set Unassembled: CFC325L□□□K

Part Number Reducer Set
- Complete Set Assembled: AQF325K

Steel Type Part Numbers
- Complete Set Assembled: A325LKM
- Complete Set Unassembled: A325LK

Tie-wrap Clamp Part Numbers
- Complete Set Assembled: CFC325L□□□KM
- Complete Set Unassembled: CFC325L□□□K
SILVYN® CHAIN 325LE
Nylon Cable Chain with opening frames

Technical data
- Inner Height (D): 25 mm
- Pitch (P): 45 mm
- Height Moving Point (W): 140 mm
- Speed: 10 m/s
- Acceleration: 50 m/s²

Separator
- Unassembled Article number S325L
- Assembled Article number S325LMC
- MCI: chain opening outer radius
- MCE: chain opening inner radius

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>325L40□□□</td>
<td>51</td>
</tr>
<tr>
<td>325L60□□□</td>
<td>71</td>
</tr>
<tr>
<td>325L76□□□</td>
<td>87</td>
</tr>
<tr>
<td>325L103□□□</td>
<td>114</td>
</tr>
</tbody>
</table>

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>325L40□□□</td>
<td>25.5</td>
<td>22</td>
</tr>
<tr>
<td>325L60□□□</td>
<td>45.5</td>
<td>42</td>
</tr>
<tr>
<td>325L76□□□</td>
<td>61.5</td>
<td>58</td>
</tr>
<tr>
<td>325L103□□□</td>
<td>88.5</td>
<td>85</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN325L□□□KM
- Complete Set Unassembled: AN325L□□□K
- Tiewarp Clamp Part Numbers
  - Complete Set Assembled: CFC325L□□□KM
  - Complete Set Unassembled: CFC325L□□□K
- Part Number Reducer Set
  - Complete Set Assembled: AQF325K

Steel Type Part Numbers
- Complete Set Assembled: A325LKM
- Complete Set Unassembled: A325LK
- Tiewarp Clamp Part Numbers
  - Complete Set Assembled: CFC325L□□□KM
  - Complete Set Unassembled: CFC325L□□□K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 325PI
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>38</td>
<td>40</td>
<td>25</td>
<td>075-100-125-150</td>
<td>1.15</td>
<td>325PI040□□□</td>
</tr>
<tr>
<td>77</td>
<td>38</td>
<td>60</td>
<td>25</td>
<td>075-100-125-150</td>
<td>1.30</td>
<td>325PI060□□□</td>
</tr>
<tr>
<td>93</td>
<td>38</td>
<td>76</td>
<td>25</td>
<td>075-100-125-150</td>
<td>1.40</td>
<td>325PI076□□□</td>
</tr>
<tr>
<td>120</td>
<td>38</td>
<td>103</td>
<td>25</td>
<td>075-100-125-150</td>
<td>1.70</td>
<td>325PI103□□□</td>
</tr>
</tbody>
</table>

Note: □□□ to be filled with Radius R

Separator

Unassembled Article number S325L
Assembled Article number S325LMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwarp clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>325PI040</td>
<td>51</td>
</tr>
<tr>
<td>325PI060</td>
<td>71</td>
</tr>
<tr>
<td>325PI076</td>
<td>87</td>
</tr>
<tr>
<td>325PI103</td>
<td>114</td>
</tr>
</tbody>
</table>

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>325PI40</td>
<td>25.5</td>
<td>22</td>
</tr>
<tr>
<td>325PI60</td>
<td>45.5</td>
<td>42</td>
</tr>
<tr>
<td>325PI76</td>
<td>61.5</td>
<td>58</td>
</tr>
<tr>
<td>325PI103</td>
<td>88.5</td>
<td>85</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN325P□□□KM
- Complete Set Unassembled: AN325P□□□K

Tiewarp Clamp Part Numbers
- Complete Set Assembled: CFC325L□□□KM
- Complete Set Unassembled: CFC325L□□□K

Steel Type Part Numbers
- Complete Set Assembled: A325LKM
- Complete Set Unassembled: A325LK

Tiewarp Clamp Part Numbers
- Complete Set Assembled: CFC325L□□□KM
- Complete Set Unassembled: CFC325L□□□K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 335L
Nylon cable chain with non-openable frames

Technical data

- Inner Height (D) 35 mm
- Pitch (P) 52 mm
- Height Moving Point (W) 140 mm
- Speed 10 m/s
- Acceleration 50 m/s²

Separator
Unassembled Article number S4353
Assembled Article number S4353MC
MCI: chain opening outer radius
MCE: chain opening inner radius

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>335L4□□□</td>
<td>25</td>
<td>51</td>
</tr>
<tr>
<td>335L5□□□</td>
<td>35</td>
<td>61</td>
</tr>
<tr>
<td>335L6□□□</td>
<td>45</td>
<td>71</td>
</tr>
<tr>
<td>335L7□□□</td>
<td>61</td>
<td>87</td>
</tr>
<tr>
<td>335L10□□□</td>
<td>88</td>
<td>114</td>
</tr>
<tr>
<td>335L12□□□</td>
<td>110</td>
<td>136</td>
</tr>
<tr>
<td>335L15□□□</td>
<td>135</td>
<td>161</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
Complete Set Assembled
AN335L□□□KM□
Complete Set Unassembled
AN335L□□□K□

Tiewarp Clamp Part Numbers
Complete Set Assembled
PFN335□□□
SILVYN® CHAIN 335LI
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>56.5</td>
<td>50</td>
<td>40</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.12</td>
<td>335LI040□□□</td>
</tr>
<tr>
<td>68.5</td>
<td>50</td>
<td>50</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.15</td>
<td>335LI050□□□</td>
</tr>
<tr>
<td>76.5</td>
<td>50</td>
<td>60</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.19</td>
<td>335LI060□□□</td>
</tr>
<tr>
<td>92.5</td>
<td>50</td>
<td>76</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.25</td>
<td>335LI076□□□</td>
</tr>
<tr>
<td>119.5</td>
<td>50</td>
<td>103</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.36</td>
<td>335LI103□□□</td>
</tr>
<tr>
<td>141.5</td>
<td>50</td>
<td>125</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.44</td>
<td>335LI125□□□</td>
</tr>
<tr>
<td>166.5</td>
<td>50</td>
<td>150</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.54</td>
<td>335LI150□□□</td>
</tr>
</tbody>
</table>

**Info**

- Sliding version to be ordered with pivoting end bracket set.

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>335L140□□□</td>
<td>25</td>
<td>51</td>
</tr>
<tr>
<td>335L150□□□</td>
<td>35</td>
<td>61</td>
</tr>
<tr>
<td>335L160□□□</td>
<td>45</td>
<td>71</td>
</tr>
<tr>
<td>335L176□□□</td>
<td>61</td>
<td>97</td>
</tr>
<tr>
<td>335L110□□□</td>
<td>88</td>
<td>114</td>
</tr>
<tr>
<td>335L125□□□</td>
<td>110</td>
<td>136</td>
</tr>
<tr>
<td>335L150□□□</td>
<td>135</td>
<td>161</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
Complete Set Assembled
AN335L□□□KM□
Complete Set Unassembled
AN335L□□□K□

Tiewarp Clamp Part Numbers
Complete Set Assembled
PFN335□□□

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 335LE
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>56.5</td>
<td>50</td>
<td>40</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.12</td>
<td>335LE076□□□</td>
</tr>
<tr>
<td>66.5</td>
<td>50</td>
<td>50</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.15</td>
<td>335LE075□□□</td>
</tr>
<tr>
<td>76.5</td>
<td>50</td>
<td>60</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.19</td>
<td>335LE076□□□</td>
</tr>
<tr>
<td>92.5</td>
<td>50</td>
<td>76</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.25</td>
<td>335LE080□□□</td>
</tr>
<tr>
<td>119.5</td>
<td>50</td>
<td>103</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.36</td>
<td>335LE103□□□</td>
</tr>
<tr>
<td>141.5</td>
<td>50</td>
<td>125</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.44</td>
<td>335LE125□□□</td>
</tr>
<tr>
<td>166.5</td>
<td>50</td>
<td>150</td>
<td>35</td>
<td>065-075-100-125-150-200</td>
<td>1.54</td>
<td>335LE150□□□</td>
</tr>
</tbody>
</table>

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Nylon Type**

![Nylon Type Diagram](image)

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>335LE40□□□</td>
<td>25</td>
<td>51</td>
</tr>
<tr>
<td>335LE50□□□</td>
<td>35</td>
<td>61</td>
</tr>
<tr>
<td>335LE60□□□</td>
<td>45</td>
<td>71</td>
</tr>
<tr>
<td>335LE70□□□</td>
<td>61</td>
<td>87</td>
</tr>
<tr>
<td>335LE103□□□</td>
<td>88</td>
<td>114</td>
</tr>
<tr>
<td>335LE125□□□</td>
<td>110</td>
<td>136</td>
</tr>
<tr>
<td>335LE150□□□</td>
<td>135</td>
<td>161</td>
</tr>
</tbody>
</table>

**Nylon Type Part Numbers**

- Complete Set Assembled
  - AN335□□□KM□
- Complete Set Unassembled
  - AN335□□□K□

**Tiewarp Clamp Part Numbers**

- Complete Set Assembled
  - PFN335□□□

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 335PS
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 mm</td>
<td>52 mm</td>
<td>140 mm</td>
<td>10 m/s</td>
<td>50 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S4353
Assembled Article number S4353MC
MCI: chain opening outer radius
MCE: chain opening inner radius

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

Info

• Sliding version to be ordered with pivoting end bracket set.
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>335PS050.111</td>
<td>61</td>
</tr>
<tr>
<td>335PS076.111</td>
<td>87</td>
</tr>
<tr>
<td>335PS103.111</td>
<td>114</td>
</tr>
<tr>
<td>335PS150.111</td>
<td>161</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
Complete Set Assembled
AN335P□□□KM□
Complete Set Unassembled
AN335P□□□K□
Tiewarp Clamp Part Numbers
Complete Set Assembled
PFN335□□□KM
□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

SILVYN® CHAIN 435MU
Nylon Cable Chain with opening frames

Technical data
- Inner Height (D): 35 mm
- Pitch (P): 50 mm
- Height Moving Point (W): 140 mm
- Speed: 10 m/s
- Acceleration: 50 m/s²

Separator
- Unassembled Article number S4353
- Assembled Article number S4353MCI, S4353MCIE
  - MCI: chain opening outer radius
  - MCE: chain opening inner radius
- Pin Article number PG445

Separator

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
### End brackets

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwarp clamps available on request.

#### Nylon Type

![Nylon Chain Diagram](image)

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>435MU040</td>
<td>51</td>
</tr>
<tr>
<td>435MU050</td>
<td>61</td>
</tr>
<tr>
<td>435MU060</td>
<td>71</td>
</tr>
<tr>
<td>435MU076</td>
<td>87</td>
</tr>
<tr>
<td>435MU097</td>
<td>108</td>
</tr>
<tr>
<td>435MU103</td>
<td>114</td>
</tr>
<tr>
<td>435MU125</td>
<td>136</td>
</tr>
<tr>
<td>435MU150</td>
<td>161</td>
</tr>
</tbody>
</table>

#### Nylon Type

![Nylon Chain Diagram](image)

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>435MU040</td>
<td>26.5</td>
</tr>
<tr>
<td>435MU050</td>
<td>36.5</td>
</tr>
<tr>
<td>435MU060</td>
<td>46.5</td>
</tr>
<tr>
<td>435MU076</td>
<td>62.5</td>
</tr>
<tr>
<td>435MU097</td>
<td>83.5</td>
</tr>
<tr>
<td>435MU103</td>
<td>89.5</td>
</tr>
<tr>
<td>435MU125</td>
<td>111.5</td>
</tr>
<tr>
<td>435MU150</td>
<td>136.5</td>
</tr>
</tbody>
</table>

#### Steel Type

![Steel Chain Diagram](image)

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>435M</td>
<td>F1-A-30</td>
</tr>
</tbody>
</table>

---

**Nylon Type Part Numbers**

- Complete Set Assembled
  - AN445MKMK
- Complete Set Unassembled
  - AN445MKK

**Tiewarp Clamp Part Numbers**

- Complete Set Assembled
  - CFC445MKMK
- Complete Set Unassembled
  - CFC445MKK

**Steel Type Part Numbers**

- Complete Set Assembled
  - A445MKMK
- Complete Set Unassembled
  - A445MKK

**Tiewarp Clamp Part Numbers**

- Complete Set Assembled
  - SFCT445MKMK
- Complete Set Unassembled
  - SFCT445MKK

□□□ Inner width (C)

□ Possible mounting positions:
1/2/3/5/6 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 435PU
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 mm</td>
<td>67 mm</td>
<td>10 m/s</td>
<td>50 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S445UF
Assembled Article number S445UFMCI, S445UFMCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG445

L=LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
**End brackets**
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>435PU040</td>
<td>51</td>
</tr>
<tr>
<td>435PU050</td>
<td>61</td>
</tr>
<tr>
<td>435PU060</td>
<td>71</td>
</tr>
<tr>
<td>435PU070</td>
<td>87</td>
</tr>
<tr>
<td>435PU097</td>
<td>108</td>
</tr>
<tr>
<td>435PU103</td>
<td>114</td>
</tr>
<tr>
<td>435PU125</td>
<td>136</td>
</tr>
<tr>
<td>435PU150</td>
<td>161</td>
</tr>
</tbody>
</table>

### Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>435PU</td>
<td>F1=A-30</td>
</tr>
</tbody>
</table>

### Nylon Type Part Numbers

- Complete Set Assembled: AN435P□□□KM
- Complete Set Unassembled: AN435P□□□K
- Tie-wrap Clamp Part Numbers:
  - Complete Set Assembled: CFC435M□□□KM
  - Complete Set Unassembled: CFC435M□□□K

### Steel Type Part Numbers

- Complete Set Assembled: A435P□□□KM
- Complete Set Unassembled: A435P□□□K
- Tie-wrap Clamp Part Numbers:
  - Complete Set Assembled: SFCT435□□□KM
  - Complete Set Unassembled: SFCT435□□□K

- Inner width (C)
- Possible mounting positions: 1/2/3/5/6 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 445MU
Nylon Cable Chain with opening frames

Technical data
- Inner Height (D): 45 mm
- Pitch (P): 67 mm
- Height Moving Point (W): 200 mm
- Speed: 10 m/s
- Acceleration: 50 m/s²

Separator
- Unassembled Article number S445UF
- Assembled Article number S445UFMCI, S445UFMCE
  - MCI: chain opening outer radius
  - MCE: chain opening inner radius
- Strong-hold separator for C > 200 mm
  - Unassembled Article number S445SH
  - Assembled Article number S445SHMC
- Pin Article number PG445

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

---

**Warning:** Sliding version to be ordered with pivoting end bracket set.

---

For current information see: www.lappgroup.com
End brackets

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Nylon Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>445MU050</td>
<td>63</td>
</tr>
<tr>
<td>445MU061</td>
<td>74</td>
</tr>
<tr>
<td>445MU075</td>
<td>88</td>
</tr>
<tr>
<td>445MU081</td>
<td>94</td>
</tr>
<tr>
<td>445MU085</td>
<td>98</td>
</tr>
<tr>
<td>445MU095</td>
<td>108</td>
</tr>
<tr>
<td>445MU100</td>
<td>113</td>
</tr>
<tr>
<td>445MU107</td>
<td>120</td>
</tr>
<tr>
<td>445MU117</td>
<td>130</td>
</tr>
<tr>
<td>445MU125</td>
<td>138</td>
</tr>
<tr>
<td>445MU136</td>
<td>149</td>
</tr>
<tr>
<td>445MU150</td>
<td>163</td>
</tr>
<tr>
<td>445MU175</td>
<td>188</td>
</tr>
<tr>
<td>445MU200</td>
<td>213</td>
</tr>
<tr>
<td>445MU211</td>
<td>224</td>
</tr>
<tr>
<td>445MU225</td>
<td>238</td>
</tr>
<tr>
<td>445MU252</td>
<td>265</td>
</tr>
<tr>
<td>445MU261</td>
<td>274</td>
</tr>
<tr>
<td>445MU286</td>
<td>289</td>
</tr>
<tr>
<td>445MU312</td>
<td>325</td>
</tr>
<tr>
<td>445MU334</td>
<td>347</td>
</tr>
<tr>
<td>445MU362</td>
<td>375</td>
</tr>
</tbody>
</table>

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>445MU</td>
<td>F1=A-44</td>
</tr>
</tbody>
</table>

**Nylon Type Part Numbers**

Complete Set Assembled: AN445MK□
Complete Set Unassembled: AN445□

**Tiewarp Clamp Part Numbers**

Complete Set Assembled: SFCT445□□□KM
Complete Set Unassembled: SFCT445□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3/5/6 (acc. to page 33)

**Steel Type Part Numbers**

Complete Set Assembled: CFC445MK□□□KM
Complete Set Unassembled: CFC445□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 445PU
Nylon cable chain with openable protection frames.

Technical data

- Inner Height (D): 45 mm
- Pitch (P): 67 mm
- Speed: 10 m/s
- Acceleration: 90 m/s²

Separator

- Unassembled: Article number S445UF
- Assembled: Article number S445UFMCI, S445UFMCE

Pin: Article number PG445

Length of chain (L) = LSA + M or M1

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Nylon Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>445PU050</td>
<td>63</td>
</tr>
<tr>
<td>445PU061</td>
<td>74</td>
</tr>
<tr>
<td>445PU075</td>
<td>88</td>
</tr>
<tr>
<td>445PU085</td>
<td>94</td>
</tr>
<tr>
<td>445PU095</td>
<td>98</td>
</tr>
<tr>
<td>445PU117</td>
<td>108</td>
</tr>
<tr>
<td>445PU100</td>
<td>113</td>
</tr>
<tr>
<td>445PU107</td>
<td>120</td>
</tr>
<tr>
<td>445PU117</td>
<td>130</td>
</tr>
<tr>
<td>445PU125</td>
<td>138</td>
</tr>
<tr>
<td>445PU136</td>
<td>149</td>
</tr>
<tr>
<td>445PU150</td>
<td>163</td>
</tr>
<tr>
<td>445PU175</td>
<td>188</td>
</tr>
<tr>
<td>445PU200</td>
<td>213</td>
</tr>
<tr>
<td>445PU211</td>
<td>224</td>
</tr>
<tr>
<td>445PU225</td>
<td>238</td>
</tr>
<tr>
<td>445PU252</td>
<td>265</td>
</tr>
<tr>
<td>445PU261</td>
<td>274</td>
</tr>
<tr>
<td>445PU368</td>
<td>189</td>
</tr>
<tr>
<td>445PU312</td>
<td>325</td>
</tr>
<tr>
<td>445PU334</td>
<td>347</td>
</tr>
<tr>
<td>445PU362</td>
<td>375</td>
</tr>
</tbody>
</table>

**Nylon Type Part Numbers**

- Complete Set Assembled: AN445PU□□□KM
- Complete Set Unassembled: AN445PU□□□K

**Tiewarp Clamp Part Numbers**

- Complete Set Assembled: CFC445M□□□KM
- Complete Set Unassembled: CFC445M□□□K

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>445PU050</td>
<td>28</td>
</tr>
<tr>
<td>445PU061</td>
<td>39</td>
</tr>
<tr>
<td>445PU075</td>
<td>53</td>
</tr>
<tr>
<td>445PU081</td>
<td>59</td>
</tr>
<tr>
<td>445PU085</td>
<td>63</td>
</tr>
<tr>
<td>445PU095</td>
<td>73</td>
</tr>
<tr>
<td>445PU100</td>
<td>78</td>
</tr>
<tr>
<td>445PU107</td>
<td>85</td>
</tr>
<tr>
<td>445PU117</td>
<td>95</td>
</tr>
<tr>
<td>445PU125</td>
<td>103</td>
</tr>
<tr>
<td>445PU136</td>
<td>114</td>
</tr>
<tr>
<td>445PU150</td>
<td>128</td>
</tr>
<tr>
<td>445PU175</td>
<td>153</td>
</tr>
<tr>
<td>445PU200</td>
<td>178</td>
</tr>
<tr>
<td>445PU211</td>
<td>189</td>
</tr>
<tr>
<td>445PU225</td>
<td>203</td>
</tr>
<tr>
<td>445PU252</td>
<td>230</td>
</tr>
<tr>
<td>445PU261</td>
<td>239</td>
</tr>
<tr>
<td>445PU368</td>
<td>254</td>
</tr>
<tr>
<td>445PU312</td>
<td>290</td>
</tr>
<tr>
<td>445PU334</td>
<td>312</td>
</tr>
<tr>
<td>445PU362</td>
<td>340</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**

- Complete Set Assembled: A445PU□□□KM
- Complete Set Unassembled: A445PU□□□K

**Tiewarp Clamp Part Numbers**

- Complete Set Assembled: CFC445M□□□KM
- Complete Set Unassembled: CFC445M□□□K

For current information see: www.lappgroup.com
### Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

---

**SILVYN® CHAIN 445AU**

Nylon cable chain with openable protection frames.

---

#### Technical data

- **Inner Height (D)**
  - 45 mm
- **Pitch (P)**
  - 67 mm
- **Speed**
  - 10 m/s
- **Acceleration**
  - 90 m/s²

---

#### Separator

<table>
<thead>
<tr>
<th>Unassembled Article number</th>
<th>S445UF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembled Article number</td>
<td>S445UFMCI, S445UFMCE</td>
</tr>
</tbody>
</table>

#### Pin

- **Article number PG445**

---

#### Self-Supporting Capacity Diagram

- The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.
- The orange marking/area in the diagram considers the difference of weight between various widths of chain.
- For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

---

### Table: Self-Supporting Capacity Diagram

<table>
<thead>
<tr>
<th>R (mm)</th>
<th>H (mm)</th>
<th>N (mm)</th>
<th>M (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>264</td>
<td>200</td>
<td>450</td>
</tr>
<tr>
<td>125</td>
<td>314</td>
<td>225</td>
<td>530</td>
</tr>
<tr>
<td>150</td>
<td>364</td>
<td>250</td>
<td>605</td>
</tr>
<tr>
<td>175</td>
<td>414</td>
<td>275</td>
<td>765</td>
</tr>
<tr>
<td>200</td>
<td>464</td>
<td>300</td>
<td>765</td>
</tr>
<tr>
<td>250</td>
<td>564</td>
<td>350</td>
<td>920</td>
</tr>
<tr>
<td>300</td>
<td>664</td>
<td>400</td>
<td>1080</td>
</tr>
</tbody>
</table>

---

**L=LSA + M or M1**

- Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

---

For current information see: www.lappgroup.com

---

For current information see: www.lappgroup.com

---

ACCESSORIES

APPENDIX
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for multiple use

End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Nylon Type Part Numbers</th>
<th>Complete Set Assembled</th>
<th>AN445KM□□□KMK</th>
<th>Complete Set Unassembled</th>
<th>AN445KM□□□KMK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiewarp Clamp Part Numbers</td>
<td>Complete Set Assembled</td>
<td>CFC445M□□□KMK</td>
<td>Complete Set Unassembled</td>
<td>CFC445M□□□KMK</td>
</tr>
</tbody>
</table>

Steel Type

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
<th>Complete Set Assembled</th>
<th>AN445KM□□□KMK</th>
<th>Complete Set Unassembled</th>
<th>AN445KM□□□KMK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiewarp Clamp Part Numbers</td>
<td>Complete Set Assembled</td>
<td>SFC445M□□□KMK</td>
<td>Complete Set Unassembled</td>
<td>SFC445M□□□KMK</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
SILVYN® CHAIN 445PS
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>64</td>
<td>61</td>
<td>45</td>
<td>100-125-150-175-200-250-300</td>
<td>1.87</td>
<td>445PS061□□□</td>
</tr>
<tr>
<td>97</td>
<td>64</td>
<td>75</td>
<td>45</td>
<td>100-125-150-175-200-250-300</td>
<td>2.05</td>
<td>445PS075□□□</td>
</tr>
<tr>
<td>147</td>
<td>64</td>
<td>125</td>
<td>45</td>
<td>100-125-150-175-200-250-300</td>
<td>2.49</td>
<td>445PS125□□□</td>
</tr>
</tbody>
</table>

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>445PS061</td>
<td>74</td>
</tr>
<tr>
<td>445PS075</td>
<td>88</td>
</tr>
<tr>
<td>445PS125</td>
<td>138</td>
</tr>
</tbody>
</table>

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>445PS061</td>
<td>39</td>
</tr>
<tr>
<td>445PS075</td>
<td>53</td>
</tr>
<tr>
<td>445PS125</td>
<td>103</td>
</tr>
</tbody>
</table>

### Nylon Type Part Numbers

- **Complete Set Assembled**
  - AN445P□□□KM
- **Complete Set Unassembled**
  - AN445P□□□K

### Tiewarp Clamp Part Numbers

- **Complete Set Assembled**
  - CFC445M□□□KM
- **Complete Set Unassembled**
  - CFC445M□□□K

□□□ Inner width (C)
Possible mounting positions: 1/2/3/5/6 (acc. to page 33)
SILVYN® CHAIN 660A
Nylon Cable Chain with opening frames

**Technical data**

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>55</td>
<td>50</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.51</td>
<td>660A050□□□</td>
</tr>
<tr>
<td>86</td>
<td>55</td>
<td>61</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.51</td>
<td>660A061□□□</td>
</tr>
<tr>
<td>100</td>
<td>55</td>
<td>75</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.59</td>
<td>660A075□□□</td>
</tr>
<tr>
<td>106</td>
<td>55</td>
<td>81</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.61</td>
<td>660A081□□□</td>
</tr>
<tr>
<td>120</td>
<td>55</td>
<td>95</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.66</td>
<td>660A095□□□</td>
</tr>
<tr>
<td>125</td>
<td>55</td>
<td>100</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.66</td>
<td>660A100□□□</td>
</tr>
<tr>
<td>132</td>
<td>55</td>
<td>107</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.69</td>
<td>660A107□□□</td>
</tr>
<tr>
<td>142</td>
<td>55</td>
<td>117</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.71</td>
<td>660A117□□□</td>
</tr>
<tr>
<td>150</td>
<td>55</td>
<td>125</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.76</td>
<td>660A125□□□</td>
</tr>
<tr>
<td>161</td>
<td>55</td>
<td>136</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.80</td>
<td>660A136□□□</td>
</tr>
<tr>
<td>175</td>
<td>55</td>
<td>150</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.84</td>
<td>660A150□□□</td>
</tr>
<tr>
<td>200</td>
<td>55</td>
<td>175</td>
<td>37</td>
<td>100-150-200-250</td>
<td>1.93</td>
<td>660A175□□□</td>
</tr>
<tr>
<td>225</td>
<td>55</td>
<td>200</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.02</td>
<td>660A200□□□</td>
</tr>
<tr>
<td>236</td>
<td>55</td>
<td>211</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.06</td>
<td>660A211□□□</td>
</tr>
<tr>
<td>250</td>
<td>55</td>
<td>225</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.11</td>
<td>660A225□□□</td>
</tr>
<tr>
<td>277</td>
<td>55</td>
<td>252</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.21</td>
<td>660A252□□□</td>
</tr>
<tr>
<td>286</td>
<td>55</td>
<td>261</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.24</td>
<td>660A261□□□</td>
</tr>
<tr>
<td>337</td>
<td>55</td>
<td>312</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.43</td>
<td>660A312□□□</td>
</tr>
<tr>
<td>359</td>
<td>55</td>
<td>334</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.52</td>
<td>660A334□□□</td>
</tr>
<tr>
<td>387</td>
<td>55</td>
<td>362</td>
<td>37</td>
<td>100-150-200-250</td>
<td>2.61</td>
<td>660A362□□□</td>
</tr>
</tbody>
</table>

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
## Protective cable conduit systems and cable carrier systems

### Cable chain carriers • Nylon cable chain for multiple use

## End brackets

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

### Nylon Type

![Nylon Type Diagram]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>660A050</td>
<td>61</td>
</tr>
<tr>
<td>660A061</td>
<td>72</td>
</tr>
<tr>
<td>660A075</td>
<td>86</td>
</tr>
<tr>
<td>660A080</td>
<td>92</td>
</tr>
<tr>
<td>660A095</td>
<td>106</td>
</tr>
<tr>
<td>660A100</td>
<td>111</td>
</tr>
<tr>
<td>660A110</td>
<td>118</td>
</tr>
<tr>
<td>660A117</td>
<td>128</td>
</tr>
<tr>
<td>660A125</td>
<td>136</td>
</tr>
<tr>
<td>660A136</td>
<td>147</td>
</tr>
<tr>
<td>660A150</td>
<td>161</td>
</tr>
<tr>
<td>660A175</td>
<td>186</td>
</tr>
<tr>
<td>660A200</td>
<td>211</td>
</tr>
<tr>
<td>660A211</td>
<td>222</td>
</tr>
<tr>
<td>660A225</td>
<td>236</td>
</tr>
<tr>
<td>660A252</td>
<td>263</td>
</tr>
<tr>
<td>660A261</td>
<td>272</td>
</tr>
<tr>
<td>660A312</td>
<td>323</td>
</tr>
<tr>
<td>660A334</td>
<td>345</td>
</tr>
<tr>
<td>660A362</td>
<td>373</td>
</tr>
</tbody>
</table>

### Steel Type

![Steel Type Diagram]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>660A050</td>
<td>38</td>
</tr>
<tr>
<td>660A061</td>
<td>49</td>
</tr>
<tr>
<td>660A075</td>
<td>63</td>
</tr>
<tr>
<td>660A080</td>
<td>69</td>
</tr>
<tr>
<td>660A095</td>
<td>83</td>
</tr>
<tr>
<td>660A100</td>
<td>88</td>
</tr>
<tr>
<td>660A117</td>
<td>95</td>
</tr>
<tr>
<td>660A125</td>
<td>105</td>
</tr>
<tr>
<td>660A136</td>
<td>113</td>
</tr>
<tr>
<td>660A150</td>
<td>124</td>
</tr>
<tr>
<td>660A175</td>
<td>138</td>
</tr>
<tr>
<td>660A200</td>
<td>163</td>
</tr>
<tr>
<td>660A211</td>
<td>188</td>
</tr>
<tr>
<td>660A225</td>
<td>213</td>
</tr>
<tr>
<td>660A252</td>
<td>240</td>
</tr>
<tr>
<td>660A261</td>
<td>249</td>
</tr>
<tr>
<td>660A312</td>
<td>300</td>
</tr>
<tr>
<td>660A334</td>
<td>322</td>
</tr>
<tr>
<td>660A362</td>
<td>350</td>
</tr>
</tbody>
</table>

### Nylon Type Part Numbers
- Complete Set Assembled: AN660AKM
- Complete Set Unassembled: AN660AK

### Steel Type Part Numbers
- Complete Set Assembled: A660AKM
- Complete Set Unassembled: A660AK

### Tie-wrap Clamp Part Numbers
- Complete Set Assembled: CFC660AKKM
- Complete Set Unassembled: CFC660AKK

- Inner width (C)
- Possible mounting positions: 1/2/3 (acc. to page 33)

For current information see: [www.lappgroup.com](http://www.lappgroup.com)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 660
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>55</td>
<td>50</td>
<td>36</td>
<td>100-150-200-250</td>
<td>1.90</td>
<td>660050□□□□</td>
</tr>
<tr>
<td>129</td>
<td>55</td>
<td>100</td>
<td>36</td>
<td>100-150-200-250</td>
<td>2.40</td>
<td>660100□□□□</td>
</tr>
<tr>
<td>179</td>
<td>55</td>
<td>150</td>
<td>36</td>
<td>100-150-200-250</td>
<td>3.00</td>
<td>600150□□□□</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>660050</td>
<td>62</td>
</tr>
<tr>
<td>660100</td>
<td>112</td>
</tr>
<tr>
<td>600150</td>
<td>162</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  - 660050 - AN660050KM
  - 660100 - AN660100KM
  - 600150 - AL600KM
- Complete Set Unassembled
  - 660050 - AN660050K
  - 660100 - AN660100K
  - 600150 - AL600K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 770A
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>78</td>
<td>45</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.25</td>
<td>770A045...</td>
</tr>
<tr>
<td>91</td>
<td>78</td>
<td>56</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.25</td>
<td>770A056...</td>
</tr>
<tr>
<td>105</td>
<td>78</td>
<td>70</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.31</td>
<td>770A070...</td>
</tr>
<tr>
<td>111</td>
<td>78</td>
<td>76</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.32</td>
<td>770A076...</td>
</tr>
<tr>
<td>125</td>
<td>78</td>
<td>90</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.36</td>
<td>770A090...</td>
</tr>
<tr>
<td>130</td>
<td>78</td>
<td>95</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.36</td>
<td>770A095...</td>
</tr>
<tr>
<td>137</td>
<td>78</td>
<td>102</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.38</td>
<td>770A102...</td>
</tr>
<tr>
<td>147</td>
<td>78</td>
<td>112</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.39</td>
<td>770A112...</td>
</tr>
<tr>
<td>155</td>
<td>78</td>
<td>120</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.43</td>
<td>770A120...</td>
</tr>
<tr>
<td>166</td>
<td>78</td>
<td>131</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.46</td>
<td>770A131...</td>
</tr>
<tr>
<td>180</td>
<td>78</td>
<td>145</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.49</td>
<td>770A145...</td>
</tr>
<tr>
<td>205</td>
<td>78</td>
<td>170</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.55</td>
<td>770A170...</td>
</tr>
<tr>
<td>230</td>
<td>78</td>
<td>195</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.62</td>
<td>770A195...</td>
</tr>
<tr>
<td>241</td>
<td>78</td>
<td>206</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.65</td>
<td>770A206...</td>
</tr>
<tr>
<td>255</td>
<td>78</td>
<td>220</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.68</td>
<td>770A220...</td>
</tr>
<tr>
<td>262</td>
<td>78</td>
<td>247</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.75</td>
<td>770A247...</td>
</tr>
<tr>
<td>291</td>
<td>78</td>
<td>256</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.77</td>
<td>770A256...</td>
</tr>
<tr>
<td>342</td>
<td>78</td>
<td>307</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.88</td>
<td>770A307...</td>
</tr>
<tr>
<td>364</td>
<td>78</td>
<td>329</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>2.94</td>
<td>770A329...</td>
</tr>
<tr>
<td>392</td>
<td>78</td>
<td>357</td>
<td>60</td>
<td>130-150-200-250-300</td>
<td>3.01</td>
<td>770A357...</td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S770A
Assembled Article number S770AMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Strong-hold separator for C > 200 mm
Unassembled Article number S770AH
Assembled Article number S770AHMC
Pin Article number PG770
□□□ to be filled with Radius R

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>770A045□□□</td>
<td>61</td>
</tr>
<tr>
<td>770A056□□□</td>
<td>72</td>
</tr>
<tr>
<td>770A070□□□</td>
<td>86</td>
</tr>
<tr>
<td>770A076□□□</td>
<td>92</td>
</tr>
<tr>
<td>770A090□□□</td>
<td>106</td>
</tr>
<tr>
<td>770A095□□□</td>
<td>111</td>
</tr>
<tr>
<td>770A102□□□</td>
<td>118</td>
</tr>
<tr>
<td>770A112□□□</td>
<td>128</td>
</tr>
<tr>
<td>770A120□□□</td>
<td>136</td>
</tr>
<tr>
<td>770A131□□□</td>
<td>147</td>
</tr>
<tr>
<td>770A145□□□</td>
<td>161</td>
</tr>
<tr>
<td>770A170□□□</td>
<td>186</td>
</tr>
<tr>
<td>770A195□□□</td>
<td>211</td>
</tr>
<tr>
<td>770A206□□□</td>
<td>222</td>
</tr>
<tr>
<td>770A220□□□</td>
<td>236</td>
</tr>
<tr>
<td>770A247□□□</td>
<td>263</td>
</tr>
<tr>
<td>770A256□□□</td>
<td>272</td>
</tr>
<tr>
<td>770A307□□□</td>
<td>323</td>
</tr>
<tr>
<td>770A329□□□</td>
<td>345</td>
</tr>
<tr>
<td>770A357□□□</td>
<td>373</td>
</tr>
</tbody>
</table>

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>770A045□□□</td>
<td>19</td>
</tr>
<tr>
<td>770A056□□□</td>
<td>30</td>
</tr>
<tr>
<td>770A070□□□</td>
<td>44</td>
</tr>
<tr>
<td>770A076□□□</td>
<td>50</td>
</tr>
<tr>
<td>770A090□□□</td>
<td>64</td>
</tr>
<tr>
<td>770A095□□□</td>
<td>69</td>
</tr>
<tr>
<td>770A102□□□</td>
<td>76</td>
</tr>
<tr>
<td>770A112□□□</td>
<td>86</td>
</tr>
<tr>
<td>770A120□□□</td>
<td>94</td>
</tr>
<tr>
<td>770A131□□□</td>
<td>105</td>
</tr>
<tr>
<td>770A145□□□</td>
<td>119</td>
</tr>
<tr>
<td>770A170□□□</td>
<td>144</td>
</tr>
<tr>
<td>770A195□□□</td>
<td>169</td>
</tr>
<tr>
<td>770A206□□□</td>
<td>180</td>
</tr>
<tr>
<td>770A220□□□</td>
<td>194</td>
</tr>
<tr>
<td>770A247□□□</td>
<td>221</td>
</tr>
<tr>
<td>770A256□□□</td>
<td>230</td>
</tr>
<tr>
<td>770A307□□□</td>
<td>281</td>
</tr>
<tr>
<td>770A329□□□</td>
<td>303</td>
</tr>
<tr>
<td>770A357□□□</td>
<td>331</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN770AKM
- Complete Set Unassembled: AN770AK

Steel Type Part Numbers
- Complete Set Assembled: A660AKM
- Complete Set Unassembled: A660AK

Tiewarp Clamp Part Numbers
- Complete Set Assembled: CFC770AKMKM
- Complete Set Unassembled: CFC770AKMK

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 770
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 mm</td>
<td>70 mm</td>
<td>6 m/s</td>
<td>30 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled: Article number S770, S700
Assembled: Article number S770 MC, S700MC

MCI: chain opening outer radius
MCE: chain opening inner radius

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>770085</td>
<td>100</td>
</tr>
<tr>
<td>770100</td>
<td>115</td>
</tr>
<tr>
<td>770150</td>
<td>165</td>
</tr>
<tr>
<td>770200</td>
<td>215</td>
</tr>
<tr>
<td>70025</td>
<td>265</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers

<table>
<thead>
<tr>
<th>Complete Set Assembled</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>770□□□ - AN7□□□KM</td>
<td></td>
</tr>
<tr>
<td>700250 – AL7□□KM</td>
<td></td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
<td></td>
</tr>
<tr>
<td>770□□□ – AN7□□□K</td>
<td></td>
</tr>
<tr>
<td>700250 – AL7□□K</td>
<td></td>
</tr>
</tbody>
</table>

□□□ inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 475MU
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>112</td>
<td>100.5</td>
<td>74</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>3.70</td>
<td>475MU074□□□</td>
</tr>
<tr>
<td>132</td>
<td>100.5</td>
<td>94</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>3.80</td>
<td>475MU094□□□</td>
</tr>
<tr>
<td>157</td>
<td>100.5</td>
<td>119</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>3.85</td>
<td>475MU119□□□</td>
</tr>
<tr>
<td>164</td>
<td>100.5</td>
<td>126</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>3.90</td>
<td>475MU126□□□</td>
</tr>
<tr>
<td>187</td>
<td>100.5</td>
<td>149</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>3.95</td>
<td>475MU149□□□</td>
</tr>
<tr>
<td>227</td>
<td>100.5</td>
<td>189</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.05</td>
<td>475MU189□□□</td>
</tr>
<tr>
<td>262</td>
<td>100.5</td>
<td>224</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.15</td>
<td>475MU224□□□</td>
</tr>
<tr>
<td>288</td>
<td>100.5</td>
<td>250</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.25</td>
<td>475MU250□□□</td>
</tr>
<tr>
<td>312</td>
<td>100.5</td>
<td>274</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.30</td>
<td>475MU274□□□</td>
</tr>
<tr>
<td>338</td>
<td>100.5</td>
<td>300</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.37</td>
<td>475MU300□□□</td>
</tr>
<tr>
<td>362</td>
<td>100.5</td>
<td>324</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.45</td>
<td>475MU324□□□</td>
</tr>
<tr>
<td>388</td>
<td>100.5</td>
<td>350</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.55</td>
<td>475MU350□□□</td>
</tr>
<tr>
<td>412</td>
<td>100.5</td>
<td>374</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.60</td>
<td>475MU374□□□</td>
</tr>
<tr>
<td>447</td>
<td>100.5</td>
<td>429</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>4.80</td>
<td>475MU429□□□</td>
</tr>
<tr>
<td>536</td>
<td>100.5</td>
<td>498</td>
<td>75.5</td>
<td>150-180-200-250-300-350-400</td>
<td>5.00</td>
<td>475MU498□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled  Article number S3095/3178
Assembled  Article number S309SMCI, S309SMCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Strong-hold separator for C > 200 mm
Unassembled  Article number S309HOFI
Assembled  Article number S309HOFILMC
Pin  Article number PG475

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>475MU074...</td>
<td>35</td>
</tr>
<tr>
<td>475MU094...</td>
<td>55</td>
</tr>
<tr>
<td>475MU119...</td>
<td>80</td>
</tr>
<tr>
<td>475MU124...</td>
<td>87</td>
</tr>
<tr>
<td>475MU149...</td>
<td>110</td>
</tr>
<tr>
<td>475MU189...</td>
<td>150</td>
</tr>
<tr>
<td>475MU224...</td>
<td>185</td>
</tr>
<tr>
<td>475MU250...</td>
<td>211</td>
</tr>
<tr>
<td>475MU274...</td>
<td>235</td>
</tr>
<tr>
<td>475MU300...</td>
<td>261</td>
</tr>
<tr>
<td>475MU324...</td>
<td>285</td>
</tr>
<tr>
<td>475MU350...</td>
<td>311</td>
</tr>
<tr>
<td>475MU374...</td>
<td>335</td>
</tr>
<tr>
<td>475MU429...</td>
<td>390</td>
</tr>
<tr>
<td>475MU498...</td>
<td>459</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A475M...KM...</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A475M...K...</td>
</tr>
</tbody>
</table>

Tiewarp Clamp Part Numbers

<table>
<thead>
<tr>
<th>Tiewarp Clamp Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>CFC475M...KM...</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>CFC475M...K...</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 475PU
Nylon cable chain with openable protection frames.

Technical data

- Inner Height (D): 75.5 mm
- Pitch (P): 105 mm
- Speed: 8 m/s
- Acceleration: 40 m/s²

Separator

Unassembled: Article number S309S
Assembled: Article number S309SMCI, S309SMCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin: Article number PG475

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>475PU074...</td>
<td>35</td>
</tr>
<tr>
<td>475PU094...</td>
<td>55</td>
</tr>
<tr>
<td>475PU119...</td>
<td>80</td>
</tr>
<tr>
<td>475PU126...</td>
<td>87</td>
</tr>
<tr>
<td>475PU149...</td>
<td>110</td>
</tr>
<tr>
<td>475PU189...</td>
<td>150</td>
</tr>
<tr>
<td>475PU224...</td>
<td>185</td>
</tr>
<tr>
<td>475PU250...</td>
<td>211</td>
</tr>
<tr>
<td>475PU274...</td>
<td>235</td>
</tr>
<tr>
<td>475PU300...</td>
<td>261</td>
</tr>
<tr>
<td>475PU324...</td>
<td>285</td>
</tr>
<tr>
<td>475PU350...</td>
<td>311</td>
</tr>
<tr>
<td>475PU374...</td>
<td>335</td>
</tr>
<tr>
<td>475PU429...</td>
<td>390</td>
</tr>
<tr>
<td>475PU498...</td>
<td>459</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A475PC□□□KMC</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A475PC□□□K</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

**SILVYN® CHAIN 306SU**
Nylon Cable Chain with opening frames

**Technical data**
- Inner Height (D) 37 mm
- Pitch (P) 65 mm
- Speed 8 m/s
- Acceleration 40 m/s²

**Separator**
- Unassembled Article number S660A
- Assembled Article number S660AMCI, S660AMCE
- MCI: chain opening outer radius
- MCE: chain opening inner radius

**Strong-hold separator for C > 200 mm**
- Unassembled Article number S660AH
- Assembled Article number S660AHMCI, S660AHMCE

**Pin**
- Article number PG307

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>55</td>
<td>43</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.61</td>
<td>306SU043□□□</td>
</tr>
<tr>
<td>90</td>
<td>55</td>
<td>54</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.61</td>
<td>306SU054□□□</td>
</tr>
<tr>
<td>104</td>
<td>55</td>
<td>68</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.68</td>
<td>306SU068□□□</td>
</tr>
<tr>
<td>110</td>
<td>55</td>
<td>74</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.70</td>
<td>306SU074□□□</td>
</tr>
<tr>
<td>124</td>
<td>55</td>
<td>88</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.74</td>
<td>306SU088□□□</td>
</tr>
<tr>
<td>129</td>
<td>55</td>
<td>93</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.74</td>
<td>306SU093□□□</td>
</tr>
<tr>
<td>136</td>
<td>55</td>
<td>100</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.76</td>
<td>306SU100□□□</td>
</tr>
<tr>
<td>146</td>
<td>55</td>
<td>110</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.77</td>
<td>306SU110□□□</td>
</tr>
<tr>
<td>154</td>
<td>55</td>
<td>118</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.82</td>
<td>306SU118□□□</td>
</tr>
<tr>
<td>165</td>
<td>55</td>
<td>129</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.85</td>
<td>306SU129□□□</td>
</tr>
<tr>
<td>179</td>
<td>55</td>
<td>143</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.89</td>
<td>306SU143□□□</td>
</tr>
<tr>
<td>204</td>
<td>55</td>
<td>168</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>1.96</td>
<td>306SU168□□□</td>
</tr>
<tr>
<td>229</td>
<td>55</td>
<td>193</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.04</td>
<td>306SU193□□□</td>
</tr>
<tr>
<td>240</td>
<td>55</td>
<td>204</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.07</td>
<td>306SU204□□□</td>
</tr>
<tr>
<td>254</td>
<td>55</td>
<td>218</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.11</td>
<td>306SU218□□□</td>
</tr>
<tr>
<td>281</td>
<td>55</td>
<td>245</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.19</td>
<td>306SU245□□□</td>
</tr>
<tr>
<td>290</td>
<td>55</td>
<td>254</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.22</td>
<td>306SU254□□□</td>
</tr>
<tr>
<td>341</td>
<td>55</td>
<td>305</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.34</td>
<td>306SU305□□□</td>
</tr>
<tr>
<td>363</td>
<td>55</td>
<td>327</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.41</td>
<td>306SU327□□□</td>
</tr>
<tr>
<td>391</td>
<td>55</td>
<td>355</td>
<td>37</td>
<td>075-107-150-200-250-300</td>
<td>2.49</td>
<td>306SU355□□□</td>
</tr>
</tbody>
</table>

**Self-Supporting Capacity Diagram**

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>306SU043</td>
<td>61</td>
</tr>
<tr>
<td>306SU054</td>
<td>72</td>
</tr>
<tr>
<td>306SU068</td>
<td>86</td>
</tr>
<tr>
<td>306SU074</td>
<td>92</td>
</tr>
<tr>
<td>306SU078</td>
<td>96</td>
</tr>
<tr>
<td>306SU088</td>
<td>106</td>
</tr>
<tr>
<td>306SU093</td>
<td>111</td>
</tr>
<tr>
<td>306SU100</td>
<td>118</td>
</tr>
<tr>
<td>306SU110</td>
<td>128</td>
</tr>
<tr>
<td>306SU118</td>
<td>136</td>
</tr>
<tr>
<td>306SU129</td>
<td>147</td>
</tr>
<tr>
<td>306SU143</td>
<td>161</td>
</tr>
<tr>
<td>306SU168</td>
<td>186</td>
</tr>
<tr>
<td>306SU193</td>
<td>211</td>
</tr>
<tr>
<td>306SU204</td>
<td>223</td>
</tr>
<tr>
<td>306SU218</td>
<td>236</td>
</tr>
<tr>
<td>306SU245</td>
<td>263</td>
</tr>
<tr>
<td>306SU254</td>
<td>272</td>
</tr>
<tr>
<td>306SU265</td>
<td>283</td>
</tr>
<tr>
<td>306SU272</td>
<td>294</td>
</tr>
<tr>
<td>306SU288</td>
<td>306</td>
</tr>
<tr>
<td>306SU355</td>
<td>373</td>
</tr>
</tbody>
</table>

**Nylon Type Part Numbers**
- Complete Set Assembled: AN306KM
- Complete Set Unassembled: AN306K

**Tiewarp Clamp Part Numbers**
- Complete Set Assembled: CFC306SKM
- Complete Set Unassembled: CFC306SK

### Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>306SU043</td>
<td>36</td>
</tr>
<tr>
<td>306SU054</td>
<td>47</td>
</tr>
<tr>
<td>306SU068</td>
<td>61</td>
</tr>
<tr>
<td>306SU074</td>
<td>67</td>
</tr>
<tr>
<td>306SU078</td>
<td>71</td>
</tr>
<tr>
<td>306SU088</td>
<td>81</td>
</tr>
<tr>
<td>306SU093</td>
<td>86</td>
</tr>
<tr>
<td>306SU100</td>
<td>93</td>
</tr>
<tr>
<td>306SU110</td>
<td>103</td>
</tr>
<tr>
<td>306SU118</td>
<td>111</td>
</tr>
<tr>
<td>306SU129</td>
<td>122</td>
</tr>
<tr>
<td>306SU143</td>
<td>136</td>
</tr>
<tr>
<td>306SU168</td>
<td>161</td>
</tr>
<tr>
<td>306SU193</td>
<td>186</td>
</tr>
<tr>
<td>306SU204</td>
<td>197</td>
</tr>
<tr>
<td>306SU218</td>
<td>211</td>
</tr>
<tr>
<td>306SU245</td>
<td>238</td>
</tr>
<tr>
<td>306SU254</td>
<td>247</td>
</tr>
<tr>
<td>306SU265</td>
<td>256</td>
</tr>
<tr>
<td>306SU272</td>
<td>265</td>
</tr>
<tr>
<td>306SU288</td>
<td>274</td>
</tr>
<tr>
<td>306SU355</td>
<td>348</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**
- Complete Set Assembled: A306SKM
- Complete Set Unassembled: AN306SK

**Tiewarp Clamp Part Numbers**
- Complete Set Assembled: SFCT306SK
- Complete Set Unassembled: SFCT306SK

---

**For current information see: www.lappgroup.com**
Protective cable conduit systems and cable carrier systems

SILVYN® CHAIN 306CU
Nylon Protection Cable Chain with opening aluminium covers

Technical data
- Inner Height (D) 37 mm
- Pitch (P) 65 mm
- Speed 8 m/s
- Acceleration 40 m/s²

Separator
Unassembled Article number S306SM
Assembled Article number S306SMMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG307

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>306CU043</td>
<td>61</td>
</tr>
<tr>
<td>306CU054</td>
<td>72</td>
</tr>
<tr>
<td>306CU068</td>
<td>86</td>
</tr>
<tr>
<td>306CU074</td>
<td>92</td>
</tr>
<tr>
<td>306CU078</td>
<td>96</td>
</tr>
<tr>
<td>306CU088</td>
<td>106</td>
</tr>
<tr>
<td>306CU093</td>
<td>111</td>
</tr>
<tr>
<td>306CU100</td>
<td>118</td>
</tr>
<tr>
<td>306CU110</td>
<td>128</td>
</tr>
<tr>
<td>306CU118</td>
<td>136</td>
</tr>
<tr>
<td>306CU129</td>
<td>147</td>
</tr>
<tr>
<td>306CU143</td>
<td>161</td>
</tr>
<tr>
<td>306CU168</td>
<td>186</td>
</tr>
<tr>
<td>306CU193</td>
<td>211</td>
</tr>
<tr>
<td>306CU204</td>
<td>222</td>
</tr>
<tr>
<td>306CU218</td>
<td>236</td>
</tr>
<tr>
<td>306CU245</td>
<td>263</td>
</tr>
<tr>
<td>306CU254</td>
<td>272</td>
</tr>
<tr>
<td>306CU305</td>
<td>323</td>
</tr>
<tr>
<td>306CU327</td>
<td>345</td>
</tr>
<tr>
<td>306CU355</td>
<td>373</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN306C□□□KM
- Complete Set Unassembled: AN306C□□□K

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>306CUF1=A-43</td>
<td></td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
- Complete Set Assembled: A306CU□□□KM
- Complete Set Unassembled: A306CU□□□K

Tie-Warp Clamp Part Numbers
- Complete Set Assembled: SFCTL306□□□KM
- Complete Set Unassembled: SFCTL306□□□K
SILVYN® CHAIN 306B
Nylon Cable Chain with un-screwable aluminium rods

Technical data
- Inner Height (D) 30 mm
- Pitch (P) 65 mm
- Speed 8 m/s
- Acceleration 40 m/s²

Separator
- Unassembled Article number S2000F
- Assembled Article number S2000FMC

MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG307

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>306B075</td>
<td>96</td>
</tr>
<tr>
<td>306B100</td>
<td>121</td>
</tr>
<tr>
<td>306B150</td>
<td>171</td>
</tr>
<tr>
<td>306B200</td>
<td>221</td>
</tr>
<tr>
<td>306B250</td>
<td>271</td>
</tr>
<tr>
<td>306B300</td>
<td>321</td>
</tr>
<tr>
<td>306B□□□</td>
<td>F=A-19</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN306KM
- Complete Set Unassembled: AN306K
- Tie-Warp Clamp Part Numbers: CFC306□□□KM
- Complete Set Unassembled: CFC306□□□K

Nylon Type Part Numbers
- Complete Set Assembled: ANL306KM
- Complete Set Unassembled: ANL306K
- Tie-Warp Clamp Part Numbers: SFCTL306□□□KM
- Complete Set Unassembled: SFCTL306□□□K

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>306B075</td>
<td>71</td>
</tr>
<tr>
<td>306B100</td>
<td>96</td>
</tr>
<tr>
<td>306B150</td>
<td>146</td>
</tr>
<tr>
<td>306B200</td>
<td>196</td>
</tr>
<tr>
<td>306B250</td>
<td>246</td>
</tr>
<tr>
<td>306B300</td>
<td>296</td>
</tr>
<tr>
<td>306B□□□</td>
<td>F=A-44</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: A306KM
- Complete Set Unassembled: AN306K
- Tie-Warp Clamp Part Numbers: SFCT306□□□KM
- Complete Set Unassembled: SFCT306□□□K

□□□ Inner width (C)
□□□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

**SILVYN® CHAIN 307SU**
Nylon Cable Chain with opening frames

![Diagram of SILVYN® CHAIN 307SU](image)

**Technical data**

- **Inner Height (D)**: 47 mm
- **Pitch (P)**: 70 mm
- **Speed**: 8 m/s
- **Acceleration**: 40 m/s²

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>65</td>
<td>42</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>1.86</td>
<td>307SU042□□□</td>
</tr>
<tr>
<td>91</td>
<td>65</td>
<td>53</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>1.86</td>
<td>307SU053□□□</td>
</tr>
<tr>
<td>105</td>
<td>65</td>
<td>67</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>1.92</td>
<td>307SU067□□□</td>
</tr>
<tr>
<td>111</td>
<td>65</td>
<td>73</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>1.94</td>
<td>307SU073□□□</td>
</tr>
<tr>
<td>125</td>
<td>65</td>
<td>87</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>1.97</td>
<td>307SU087□□□</td>
</tr>
<tr>
<td>130</td>
<td>65</td>
<td>92</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>1.97</td>
<td>307SU092□□□</td>
</tr>
<tr>
<td>147</td>
<td>65</td>
<td>109</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.00</td>
<td>307SU109□□□</td>
</tr>
<tr>
<td>155</td>
<td>65</td>
<td>117</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.05</td>
<td>307SU117□□□</td>
</tr>
<tr>
<td>166</td>
<td>65</td>
<td>128</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.07</td>
<td>307SU128□□□</td>
</tr>
<tr>
<td>180</td>
<td>65</td>
<td>142</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.10</td>
<td>307SU142□□□</td>
</tr>
<tr>
<td>205</td>
<td>65</td>
<td>167</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.16</td>
<td>307SU167□□□</td>
</tr>
<tr>
<td>230</td>
<td>65</td>
<td>192</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.23</td>
<td>307SU192□□□</td>
</tr>
<tr>
<td>241</td>
<td>65</td>
<td>203</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.26</td>
<td>307SU203□□□</td>
</tr>
<tr>
<td>255</td>
<td>65</td>
<td>217</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.30</td>
<td>307SU217□□□</td>
</tr>
<tr>
<td>282</td>
<td>65</td>
<td>244</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.37</td>
<td>307SU244□□□</td>
</tr>
<tr>
<td>291</td>
<td>65</td>
<td>253</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.39</td>
<td>307SU253□□□</td>
</tr>
<tr>
<td>342</td>
<td>65</td>
<td>304</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.50</td>
<td>307SU304□□□</td>
</tr>
<tr>
<td>354</td>
<td>65</td>
<td>326</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.56</td>
<td>307SU326□□□</td>
</tr>
<tr>
<td>392</td>
<td>65</td>
<td>354</td>
<td>47</td>
<td>075-090-120-140-200-250</td>
<td>2.63</td>
<td>307SU354□□□</td>
</tr>
</tbody>
</table>

**Separator**

- **Unassembled** Article number S307S
- **Assembled** Article number S307SMCI; S307SMCE
- **MCI**: chain opening outer radius
- **MCE**: chain opening inner radius

**Strong-hold separator for C > 200 mm**

- **Unassembled** Article number S307SH
- **Assembled** Article number S307SHMCI; S307SHMCE
- **Pin** Article number PG307

**Self-Supporting Capacity Diagram**

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

L = LSA + M or M1

Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

### Nylon Type

#### Part Numbers

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>307SU042</td>
<td>61</td>
</tr>
<tr>
<td>307SU053</td>
<td>72</td>
</tr>
<tr>
<td>307SU067</td>
<td>86</td>
</tr>
<tr>
<td>307SU073</td>
<td>92</td>
</tr>
<tr>
<td>307SU081</td>
<td>100</td>
</tr>
<tr>
<td>307SU087</td>
<td>106</td>
</tr>
<tr>
<td>307SU092</td>
<td>111</td>
</tr>
<tr>
<td>307SU099</td>
<td>118</td>
</tr>
<tr>
<td>307SU109</td>
<td>128</td>
</tr>
<tr>
<td>307SU117</td>
<td>136</td>
</tr>
<tr>
<td>307SU128</td>
<td>147</td>
</tr>
<tr>
<td>307SU142</td>
<td>161</td>
</tr>
<tr>
<td>307SU167</td>
<td>186</td>
</tr>
<tr>
<td>307SU192</td>
<td>211</td>
</tr>
<tr>
<td>307SU203</td>
<td>222</td>
</tr>
<tr>
<td>307SU217</td>
<td>236</td>
</tr>
<tr>
<td>307SU244</td>
<td>263</td>
</tr>
<tr>
<td>307SU253</td>
<td>272</td>
</tr>
<tr>
<td>307SU304</td>
<td>323</td>
</tr>
<tr>
<td>307SU326</td>
<td>345</td>
</tr>
<tr>
<td>307SU354</td>
<td>373</td>
</tr>
</tbody>
</table>

#### Tiewarp Clamp Part Numbers

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFCT307S□□□KM</td>
<td></td>
</tr>
<tr>
<td>SFCT307S□□□K</td>
<td></td>
</tr>
</tbody>
</table>

---

### Steel Type

#### Part Numbers

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>307SU042</td>
<td>31</td>
</tr>
<tr>
<td>307SU053</td>
<td>42</td>
</tr>
<tr>
<td>307SU067</td>
<td>56</td>
</tr>
<tr>
<td>307SU073</td>
<td>62</td>
</tr>
<tr>
<td>307SU081</td>
<td>70</td>
</tr>
<tr>
<td>307SU087</td>
<td>76</td>
</tr>
<tr>
<td>307SU092</td>
<td>81</td>
</tr>
<tr>
<td>307SU099</td>
<td>88</td>
</tr>
<tr>
<td>307SU109</td>
<td>98</td>
</tr>
<tr>
<td>307SU117</td>
<td>106</td>
</tr>
<tr>
<td>307SU128</td>
<td>117</td>
</tr>
<tr>
<td>307SU142</td>
<td>131</td>
</tr>
<tr>
<td>307SU167</td>
<td>156</td>
</tr>
<tr>
<td>307SU192</td>
<td>181</td>
</tr>
<tr>
<td>307SU203</td>
<td>192</td>
</tr>
<tr>
<td>307SU217</td>
<td>206</td>
</tr>
<tr>
<td>307SU244</td>
<td>233</td>
</tr>
<tr>
<td>307SU253</td>
<td>242</td>
</tr>
<tr>
<td>307SU304</td>
<td>293</td>
</tr>
<tr>
<td>307SU326</td>
<td>315</td>
</tr>
<tr>
<td>307SU354</td>
<td>343</td>
</tr>
</tbody>
</table>

#### Tiewarp Clamp Part Numbers

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFCT307S□□□KM</td>
<td></td>
</tr>
<tr>
<td>SFCT307S□□□K</td>
<td></td>
</tr>
</tbody>
</table>

---

**Inner width (C)**

**Possible mounting positions: 1/2/3 (acc. to page 33)**

---

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

**SILVYN® CHAIN 307B**
Nylon Cable Chain with un-screwable aluminium rods

### Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>65</td>
<td>75</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>1.80</td>
<td>307B075□□□</td>
</tr>
<tr>
<td>142</td>
<td>65</td>
<td>100</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>1.85</td>
<td>307B100□□□</td>
</tr>
<tr>
<td>192</td>
<td>65</td>
<td>150</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>1.95</td>
<td>307B150□□□</td>
</tr>
<tr>
<td>242</td>
<td>65</td>
<td>200</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>2.05</td>
<td>307B200□□□</td>
</tr>
<tr>
<td>292</td>
<td>65</td>
<td>250</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>2.15</td>
<td>307B250□□□</td>
</tr>
<tr>
<td>342</td>
<td>65</td>
<td>300</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>2.25</td>
<td>307B300□□□</td>
</tr>
<tr>
<td>C+42</td>
<td>65</td>
<td>40</td>
<td>075-090-120-140-200-250</td>
<td>...</td>
<td>307B□□□□□</td>
<td></td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S307
Assembled Article number S307MC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG307

**Self-Supporting Capacity Diagram**
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>307B075</td>
<td>98</td>
</tr>
<tr>
<td>307B100</td>
<td>123</td>
</tr>
<tr>
<td>307B150</td>
<td>173</td>
</tr>
<tr>
<td>307B200</td>
<td>223</td>
</tr>
<tr>
<td>307B250</td>
<td>273</td>
</tr>
<tr>
<td>307B300</td>
<td>323</td>
</tr>
<tr>
<td>307B□□□□</td>
<td>F=A-19</td>
</tr>
</tbody>
</table>

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F ^mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>307B075</td>
<td>68</td>
</tr>
<tr>
<td>307B100</td>
<td>93</td>
</tr>
<tr>
<td>307B150</td>
<td>143</td>
</tr>
<tr>
<td>307B200</td>
<td>193</td>
</tr>
<tr>
<td>307B250</td>
<td>243</td>
</tr>
<tr>
<td>307B300</td>
<td>293</td>
</tr>
<tr>
<td>307B□□□□</td>
<td>F=A-49</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  - AN307KM
- Complete Set Unassembled
  - AN307K

Tie-wrap Clamp Part Numbers
- Complete Set Assembled
  - CFC307S□□□KM
- Complete Set Unassembled
  - CFC307S□□□K

Steel Type Part Numbers
- Complete Set Assembled
  - A307KM
- Complete Set Unassembled
  - A307K

Tie-wrap Clamp Part Numbers
- Complete Set Assembled
  - SFCT307S□□□KM
- Complete Set Unassembled
  - SFCT307S□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 307E
Nylon cable chain with un-screwable aluminium rods.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>65</td>
<td>75</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>1.80</td>
<td>307E075□□□</td>
</tr>
<tr>
<td>138</td>
<td>65</td>
<td>100</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>1.85</td>
<td>307E100□□□</td>
</tr>
<tr>
<td>188</td>
<td>65</td>
<td>150</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>1.95</td>
<td>307E150□□□</td>
</tr>
<tr>
<td>238</td>
<td>65</td>
<td>200</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>2.05</td>
<td>307E200□□□</td>
</tr>
<tr>
<td>288</td>
<td>65</td>
<td>250</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>2.15</td>
<td>307E250□□□</td>
</tr>
<tr>
<td>338</td>
<td>65</td>
<td>300</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>2.25</td>
<td>307E300□□□</td>
</tr>
<tr>
<td>388</td>
<td>65</td>
<td>350</td>
<td>46.5</td>
<td>075-090-120-140-170-200-250</td>
<td>2.35</td>
<td>307E□□□□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S307EF
Assembled Article number S307EFMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG307

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
**End brackets**
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>307E075</td>
<td>94</td>
</tr>
<tr>
<td>307E100</td>
<td>119</td>
</tr>
<tr>
<td>307E150</td>
<td>169</td>
</tr>
<tr>
<td>307E200</td>
<td>219</td>
</tr>
<tr>
<td>307E250</td>
<td>269</td>
</tr>
<tr>
<td>307E300</td>
<td>319</td>
</tr>
<tr>
<td>307□□□</td>
<td>F=A-19</td>
</tr>
</tbody>
</table>

### Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>307E075</td>
<td>94</td>
</tr>
<tr>
<td>307E100</td>
<td>119</td>
</tr>
<tr>
<td>307E150</td>
<td>169</td>
</tr>
<tr>
<td>307E200</td>
<td>219</td>
</tr>
<tr>
<td>307E250</td>
<td>269</td>
</tr>
<tr>
<td>307E300</td>
<td>319</td>
</tr>
<tr>
<td>307□□□</td>
<td>F=A-19</td>
</tr>
</tbody>
</table>

### Nylon Type Part Numbers
- Complete Set Assembled: AN307KM
- Complete Set Unassembled: AN307K
- Tiewarp Clamp Part Numbers: CFC307□□□KM
- Complete Set: CFC307□□□K

### Steel Type Part Numbers
- Complete Set Assembled: A307EKM□
- Complete Set Unassembled: A307EK□
- Tiewarp Clamp Part Numbers: SFCT307□□□KM
- Complete Set: SFCT307□□□K

Inner width (C)
Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 308SU
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>75</td>
<td>38</td>
<td>57</td>
<td>135-150</td>
<td>2.46</td>
<td>308SU038□□□</td>
</tr>
<tr>
<td>93</td>
<td>75</td>
<td>49</td>
<td>57</td>
<td>135-150</td>
<td>2.46</td>
<td>308SU049□□□</td>
</tr>
<tr>
<td>107</td>
<td>75</td>
<td>63</td>
<td>57</td>
<td>135-150</td>
<td>2.51</td>
<td>308SU063□□□</td>
</tr>
<tr>
<td>113</td>
<td>75</td>
<td>69</td>
<td>57</td>
<td>135-150</td>
<td>2.53</td>
<td>308SU069□□□</td>
</tr>
<tr>
<td>127</td>
<td>75</td>
<td>83</td>
<td>57</td>
<td>135-150</td>
<td>2.56</td>
<td>308SU083□□□</td>
</tr>
<tr>
<td>132</td>
<td>75</td>
<td>88</td>
<td>57</td>
<td>135-150</td>
<td>2.56</td>
<td>308SU088□□□</td>
</tr>
<tr>
<td>139</td>
<td>75</td>
<td>95</td>
<td>57</td>
<td>135-150</td>
<td>2.58</td>
<td>308SU095□□□</td>
</tr>
<tr>
<td>149</td>
<td>75</td>
<td>105</td>
<td>57</td>
<td>135-150</td>
<td>2.59</td>
<td>308SU105□□□</td>
</tr>
<tr>
<td>157</td>
<td>75</td>
<td>113</td>
<td>57</td>
<td>135-150</td>
<td>2.62</td>
<td>308SU113□□□</td>
</tr>
<tr>
<td>168</td>
<td>75</td>
<td>124</td>
<td>57</td>
<td>135-150</td>
<td>2.65</td>
<td>308SU124□□□</td>
</tr>
<tr>
<td>182</td>
<td>75</td>
<td>138</td>
<td>57</td>
<td>135-150</td>
<td>2.67</td>
<td>308SU138□□□</td>
</tr>
<tr>
<td>207</td>
<td>75</td>
<td>163</td>
<td>57</td>
<td>135-150</td>
<td>2.73</td>
<td>308SU163□□□</td>
</tr>
<tr>
<td>232</td>
<td>75</td>
<td>188</td>
<td>57</td>
<td>135-150</td>
<td>2.79</td>
<td>308SU188□□□</td>
</tr>
<tr>
<td>243</td>
<td>75</td>
<td>199</td>
<td>57</td>
<td>135-150</td>
<td>2.81</td>
<td>308SU199□□□</td>
</tr>
<tr>
<td>257</td>
<td>75</td>
<td>213</td>
<td>57</td>
<td>135-150</td>
<td>2.84</td>
<td>308SU213□□□</td>
</tr>
<tr>
<td>284</td>
<td>75</td>
<td>240</td>
<td>57</td>
<td>135-150</td>
<td>2.90</td>
<td>308SU240□□□</td>
</tr>
<tr>
<td>293</td>
<td>75</td>
<td>249</td>
<td>57</td>
<td>135-150</td>
<td>2.92</td>
<td>308SU249□□□</td>
</tr>
<tr>
<td>344</td>
<td>75</td>
<td>300</td>
<td>57</td>
<td>135-150</td>
<td>3.02</td>
<td>308SU300□□□</td>
</tr>
<tr>
<td>366</td>
<td>75</td>
<td>322</td>
<td>57</td>
<td>135-150</td>
<td>3.07</td>
<td>308SU322□□□</td>
</tr>
<tr>
<td>394</td>
<td>75</td>
<td>350</td>
<td>57</td>
<td>135-150</td>
<td>3.13</td>
<td>308SU350□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S308C
Assembled Article number S308CMCI, S308CMCE
MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S308SHF
Assembled Article number S308SHFMCI, S308SHFMCE

Pin Article number PG308

L=LSA + M or M1
Length of chain (L)= Half travel distance LSA plus length of curve (M) or (M1)

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

**Nylon Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308SU038K</td>
<td>62</td>
</tr>
<tr>
<td>308SU049K</td>
<td>73</td>
</tr>
<tr>
<td>308SU063K</td>
<td>87</td>
</tr>
<tr>
<td>308SU088K</td>
<td>107</td>
</tr>
<tr>
<td>308SU111K</td>
<td>112</td>
</tr>
<tr>
<td>308SU124K</td>
<td>119</td>
</tr>
<tr>
<td>308SU138K</td>
<td>129</td>
</tr>
<tr>
<td>308SU163K</td>
<td>137</td>
</tr>
<tr>
<td>308SU188K</td>
<td>148</td>
</tr>
<tr>
<td>308SU199K</td>
<td>162</td>
</tr>
<tr>
<td>308SU213K</td>
<td>187</td>
</tr>
<tr>
<td>308SU249K</td>
<td>212</td>
</tr>
<tr>
<td>308SU264K</td>
<td>223</td>
</tr>
<tr>
<td>308SU273K</td>
<td>237</td>
</tr>
<tr>
<td>308SU324K</td>
<td>264</td>
</tr>
<tr>
<td>308SU346K</td>
<td>273</td>
</tr>
<tr>
<td>308SU374K</td>
<td>324</td>
</tr>
</tbody>
</table>

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308SU038K</td>
<td>20</td>
</tr>
<tr>
<td>308SU049K</td>
<td>31</td>
</tr>
<tr>
<td>308SU063K</td>
<td>45</td>
</tr>
<tr>
<td>308SU088K</td>
<td>51</td>
</tr>
<tr>
<td>308SU105K</td>
<td>65</td>
</tr>
<tr>
<td>308SU111K</td>
<td>70</td>
</tr>
<tr>
<td>308SU124K</td>
<td>77</td>
</tr>
<tr>
<td>308SU138K</td>
<td>87</td>
</tr>
<tr>
<td>308SU163K</td>
<td>95</td>
</tr>
<tr>
<td>308SU188K</td>
<td>106</td>
</tr>
<tr>
<td>308SU199K</td>
<td>120</td>
</tr>
<tr>
<td>308SU213K</td>
<td>145</td>
</tr>
<tr>
<td>308SU249K</td>
<td>170</td>
</tr>
<tr>
<td>308SU264K</td>
<td>181</td>
</tr>
<tr>
<td>308SU273K</td>
<td>195</td>
</tr>
<tr>
<td>308SU282K</td>
<td>222</td>
</tr>
<tr>
<td>308SU304K</td>
<td>231</td>
</tr>
<tr>
<td>308SU332K</td>
<td>282</td>
</tr>
<tr>
<td>308SU353K</td>
<td>304</td>
</tr>
</tbody>
</table>

**Nylon Type Part Numbers**
- Complete Set Assembled: AN308SKM
- Complete Set Unassembled: AN308SK

**Tie-Warp Clamp Part Numbers**
- Complete Set Assembled: CFC308S□□□KM
- Complete Set Unassembled: CFC308S□□□K

**Steel Type Part Numbers**
- Complete Set Assembled: A308SKM
- Complete Set Unassembled: A308SK

**Tie-Warp Clamp Part Numbers**
- Complete Set Assembled: SFCT308S□□□KM
- Complete Set Unassembled: SFCT308S□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 308CU
Nylon Protection cable chain with openable aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>57 mm</td>
<td>80 mm</td>
<td>8 m/s</td>
<td>40 m/s²</td>
</tr>
</tbody>
</table>

Separator

<table>
<thead>
<tr>
<th>Unassembled</th>
<th>Assembled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article number S308C</td>
<td>Article number S308CMCI, S308CMCE</td>
</tr>
</tbody>
</table>

MCI: chain opening outer radius
MCE: chain opening inner radius
Pin: Article number PG308

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>75</td>
<td>38</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>2.90</td>
<td>308CU038□□□</td>
</tr>
<tr>
<td>93</td>
<td>75</td>
<td>49</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.01</td>
<td>308CU049□□□</td>
</tr>
<tr>
<td>107</td>
<td>75</td>
<td>63</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.19</td>
<td>308CU063□□□</td>
</tr>
<tr>
<td>113</td>
<td>75</td>
<td>69</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.27</td>
<td>308CU069□□□</td>
</tr>
<tr>
<td>127</td>
<td>75</td>
<td>83</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.43</td>
<td>308CU083□□□</td>
</tr>
<tr>
<td>132</td>
<td>75</td>
<td>88</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.48</td>
<td>308CU088□□□</td>
</tr>
<tr>
<td>139</td>
<td>75</td>
<td>95</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.56</td>
<td>308CU095□□□</td>
</tr>
<tr>
<td>149</td>
<td>75</td>
<td>105</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.67</td>
<td>308CU105□□□</td>
</tr>
<tr>
<td>157</td>
<td>75</td>
<td>113</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.77</td>
<td>308CU113□□□</td>
</tr>
<tr>
<td>168</td>
<td>75</td>
<td>124</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>3.91</td>
<td>308CU124□□□</td>
</tr>
<tr>
<td>182</td>
<td>75</td>
<td>138</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>4.06</td>
<td>308CU138□□□</td>
</tr>
<tr>
<td>207</td>
<td>75</td>
<td>163</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>4.36</td>
<td>308CU163□□□</td>
</tr>
<tr>
<td>232</td>
<td>75</td>
<td>188</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>4.65</td>
<td>308CU188□□□</td>
</tr>
<tr>
<td>243</td>
<td>75</td>
<td>199</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>4.78</td>
<td>308CU199□□□</td>
</tr>
<tr>
<td>257</td>
<td>75</td>
<td>213</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>4.94</td>
<td>308CU213□□□</td>
</tr>
<tr>
<td>284</td>
<td>75</td>
<td>240</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>5.25</td>
<td>308CU240□□□</td>
</tr>
<tr>
<td>293</td>
<td>75</td>
<td>249</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>5.37</td>
<td>308CU249□□□</td>
</tr>
<tr>
<td>344</td>
<td>75</td>
<td>300</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>5.95</td>
<td>308CU300□□□</td>
</tr>
<tr>
<td>366</td>
<td>75</td>
<td>322</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>6.20</td>
<td>308CU322□□□</td>
</tr>
<tr>
<td>394</td>
<td>75</td>
<td>350</td>
<td>57</td>
<td>150-180-200-230-280-300-400</td>
<td>6.61</td>
<td>308CU350□□□</td>
</tr>
</tbody>
</table>

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308CU038.1.1</td>
<td>62</td>
</tr>
<tr>
<td>308CU049.1.1</td>
<td>73</td>
</tr>
<tr>
<td>308CU063.1.1</td>
<td>87</td>
</tr>
<tr>
<td>308CU088.1.1</td>
<td>93</td>
</tr>
<tr>
<td>308CU089.1.1</td>
<td>107</td>
</tr>
<tr>
<td>308CU100.1.1</td>
<td>112</td>
</tr>
<tr>
<td>308CU095.1.1</td>
<td>119</td>
</tr>
<tr>
<td>308CU100.1.1</td>
<td>129</td>
</tr>
<tr>
<td>308CU113.1.1</td>
<td>137</td>
</tr>
<tr>
<td>308CU124.1.1</td>
<td>148</td>
</tr>
<tr>
<td>308CU138.1.1</td>
<td>162</td>
</tr>
<tr>
<td>308CU163.1.1</td>
<td>187</td>
</tr>
<tr>
<td>308CU188.1.1</td>
<td>212</td>
</tr>
<tr>
<td>308CU199.1.1</td>
<td>223</td>
</tr>
<tr>
<td>308CU214.1.1</td>
<td>237</td>
</tr>
<tr>
<td>308CU249.1.1</td>
<td>264</td>
</tr>
<tr>
<td>308CU249.1.1</td>
<td>273</td>
</tr>
<tr>
<td>308CU300.1.1</td>
<td>324</td>
</tr>
<tr>
<td>308CU322.1.1</td>
<td>346</td>
</tr>
<tr>
<td>308CU350.1.1</td>
<td>374</td>
</tr>
</tbody>
</table>

### Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308CU038.1.1</td>
<td>20</td>
</tr>
<tr>
<td>308CU049.1.1</td>
<td>31</td>
</tr>
<tr>
<td>308CU063.1.1</td>
<td>45</td>
</tr>
<tr>
<td>308CU088.1.1</td>
<td>51</td>
</tr>
<tr>
<td>308CU089.1.1</td>
<td>65</td>
</tr>
<tr>
<td>308CU095.1.1</td>
<td>70</td>
</tr>
<tr>
<td>308CU099.1.1</td>
<td>77</td>
</tr>
<tr>
<td>308CU105.1.1</td>
<td>87</td>
</tr>
<tr>
<td>308CU113.1.1</td>
<td>95</td>
</tr>
<tr>
<td>308CU124.1.1</td>
<td>106</td>
</tr>
<tr>
<td>308CU138.1.1</td>
<td>120</td>
</tr>
<tr>
<td>308CU163.1.1</td>
<td>145</td>
</tr>
<tr>
<td>308CU188.1.1</td>
<td>170</td>
</tr>
<tr>
<td>308CU199.1.1</td>
<td>181</td>
</tr>
<tr>
<td>308CU214.1.1</td>
<td>195</td>
</tr>
<tr>
<td>308CU249.1.1</td>
<td>222</td>
</tr>
<tr>
<td>308CU249.1.1</td>
<td>231</td>
</tr>
<tr>
<td>308CU300.1.1</td>
<td>282</td>
</tr>
<tr>
<td>308CU322.1.1</td>
<td>304</td>
</tr>
<tr>
<td>308CU350.1.1</td>
<td>332</td>
</tr>
</tbody>
</table>

### Nylon Type Part Numbers
- Complete Set Assembled: AN308C□□□KM
- Complete Set Unassembled: AN308C□□□K

### Steel Type Part Numbers
- Complete Set Assembled: A308CU□□□KM□
- Complete Set Unassembled: A308CU□□□K□

### Tiewarp Clamp Part Numbers
- Complete Set Assembled: CFC445M□□□KM
- Complete Set Unassembled: CFC445M□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 308B
Nylon Cable Chain with un-screwable aluminium rods

Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for multiple use

Technical data
- Inner Height (D): 48 mm
- Pitch (P): 80 mm
- Speed: 8 m/s
- Acceleration: 40 m/s²

Separator
- Unassembled Article number S3000F
- Assembled Article number S3000FMC
- MCI: chain opening outer radius
- MCE: chain opening inner radius
- Pin Article number PG308

Self-Supporting Capacity Diagram
- The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.
- The orange marking/area in the diagram considers the difference of weight between various widths of chain.
- For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for multiple use

End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Nylon Type

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308B100□</td>
<td>135</td>
<td>308B100□</td>
<td>93</td>
</tr>
<tr>
<td>308B150□</td>
<td>185</td>
<td>308B150□</td>
<td>143</td>
</tr>
<tr>
<td>308B200□</td>
<td>235</td>
<td>308B200□</td>
<td>193</td>
</tr>
<tr>
<td>308B250□</td>
<td>285</td>
<td>308B250□</td>
<td>243</td>
</tr>
<tr>
<td>308B300□</td>
<td>335</td>
<td>308B300□</td>
<td>293</td>
</tr>
<tr>
<td>308□□□□</td>
<td>F=A-21</td>
<td>308□□□□</td>
<td>F=A-63</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN308KM
- Complete Set Unassembled: AN308K

Steel Type Part Numbers
- Complete Set Assembled: A308KM
- Complete Set Unassembled: A308K

Tiewarp Clamp Part Numbers
- Complete Set Assembled: CFC308□□□KM
- Complete Set Unassembled: CFC308□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 308E
Nylon cable chain with un-screwable aluminium rods.

Technical data
- Inner Height (D): 56.5 mm
- Pitch (P): 80 mm
- Speed: 8 m/s
- Acceleration: 40 m/s²

Separator
- Unassembled Article number S308EF
- Assembled Article number S308EFMC
- MCI: chain opening outer radius
- MCE: chain opening inner radius
- Pin Article number PG308

Length of chain (L) = Half travel distance LSA + length of curve (M) or (M1)

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

**Nylon Type**

![Nylon Type Image]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308E100</td>
<td>123</td>
</tr>
<tr>
<td>308E150</td>
<td>173</td>
</tr>
<tr>
<td>308E200</td>
<td>223</td>
</tr>
<tr>
<td>308E250</td>
<td>273</td>
</tr>
<tr>
<td>308E300</td>
<td>323</td>
</tr>
<tr>
<td>F=A-20</td>
<td></td>
</tr>
</tbody>
</table>

**Steel Type**

![Steel Type Image]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>308E100</td>
<td>81</td>
</tr>
<tr>
<td>308E150</td>
<td>131</td>
</tr>
<tr>
<td>308E200</td>
<td>181</td>
</tr>
<tr>
<td>308E250</td>
<td>231</td>
</tr>
<tr>
<td>308E300</td>
<td>281</td>
</tr>
<tr>
<td>F=A-62</td>
<td></td>
</tr>
</tbody>
</table>

**Nylon Type Part Numbers**
- Complete Set Assembled
  - AN308KM
- Complete Set Unassembled
  - AN308K

**Steel Type Part Numbers**
- Complete Set Assembled
  - A308EKM
- Complete Set Unassembled
  - A308EK

**Tiewrap Clamp Part Numbers**
- Complete Set Assembled
  - CFC308S□□□KM
- Complete Set Unassembled
  - CFC308S□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 309SU
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>75.5 mm</td>
<td>100 mm</td>
<td>8 m/s</td>
<td>40 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S309S/3178
Assembled Article number S309S/3178MCI, S309S/3178MCE
MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S309HOFL
Assembled Article number S309HOFLMC
Pin Article number PG309H

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

For current information see: www.lappgroup.com
## End brackets

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

### Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309SU064</td>
<td>92</td>
</tr>
<tr>
<td>309SU084</td>
<td>112</td>
</tr>
<tr>
<td>309SU109</td>
<td>137</td>
</tr>
<tr>
<td>309SU116</td>
<td>144</td>
</tr>
<tr>
<td>309SU139</td>
<td>167</td>
</tr>
<tr>
<td>309SU179</td>
<td>207</td>
</tr>
<tr>
<td>309SU214</td>
<td>242</td>
</tr>
<tr>
<td>309SU240</td>
<td>268</td>
</tr>
<tr>
<td>309SU264</td>
<td>292</td>
</tr>
<tr>
<td>309SU290</td>
<td>318</td>
</tr>
<tr>
<td>309SU314</td>
<td>342</td>
</tr>
<tr>
<td>309SU340</td>
<td>368</td>
</tr>
<tr>
<td>309SU364</td>
<td>392</td>
</tr>
<tr>
<td>309SU419</td>
<td>447</td>
</tr>
<tr>
<td>309SU488</td>
<td>516</td>
</tr>
</tbody>
</table>

### Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309SU064</td>
<td>50</td>
</tr>
<tr>
<td>309SU084</td>
<td>70</td>
</tr>
<tr>
<td>309SU109</td>
<td>95</td>
</tr>
<tr>
<td>309SU116</td>
<td>102</td>
</tr>
<tr>
<td>309SU139</td>
<td>125</td>
</tr>
<tr>
<td>309SU179</td>
<td>165</td>
</tr>
<tr>
<td>309SU214</td>
<td>200</td>
</tr>
<tr>
<td>309SU240</td>
<td>226</td>
</tr>
<tr>
<td>309SU264</td>
<td>250</td>
</tr>
<tr>
<td>309SU290</td>
<td>276</td>
</tr>
<tr>
<td>309SU314</td>
<td>300</td>
</tr>
<tr>
<td>309SU340</td>
<td>326</td>
</tr>
<tr>
<td>309SU364</td>
<td>350</td>
</tr>
<tr>
<td>309SU419</td>
<td>405</td>
</tr>
<tr>
<td>309SU488</td>
<td>474</td>
</tr>
</tbody>
</table>

### Nylon Type Part Numbers

- Complete Set Assembled: AN309KM
- Complete Set Unassembled: AN309K

### Tiewarp Clamp Part Numbers

- Complete Set Assembled: CFC309S□□□KM
- Complete Set Unassembled: CFC309S□□□K

### Steel Type Part Numbers

- Complete Set Assembled: A309SKM□
- Complete Set Unassembled: A309SK□

- Tiewarp Clamp Part Numbers: SFCT309S□□□KM

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for multiple use

SILVYN® CHAIN 309CU
Nylon Protection cable chain with openable aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>100</td>
<td>64</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>4.84</td>
<td>309CU064□□□</td>
</tr>
<tr>
<td>137</td>
<td>100</td>
<td>84</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>5.12</td>
<td>309CU084□□□</td>
</tr>
<tr>
<td>162</td>
<td>100</td>
<td>109</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>5.47</td>
<td>309CU109□□□</td>
</tr>
<tr>
<td>169</td>
<td>100</td>
<td>116</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>5.58</td>
<td>309CU116□□□</td>
</tr>
<tr>
<td>192</td>
<td>100</td>
<td>139</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>5.90</td>
<td>309CU139□□□</td>
</tr>
<tr>
<td>232</td>
<td>100</td>
<td>179</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>6.47</td>
<td>309CU179□□□</td>
</tr>
<tr>
<td>267</td>
<td>100</td>
<td>214</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>6.97</td>
<td>309CU214□□□</td>
</tr>
<tr>
<td>293</td>
<td>100</td>
<td>240</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>7.35</td>
<td>309CU240□□□</td>
</tr>
<tr>
<td>317</td>
<td>100</td>
<td>264</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>7.68</td>
<td>309CU264□□□</td>
</tr>
<tr>
<td>343</td>
<td>100</td>
<td>290</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>8.04</td>
<td>309CU290□□□</td>
</tr>
<tr>
<td>367</td>
<td>100</td>
<td>314</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>8.39</td>
<td>309CU314□□□</td>
</tr>
<tr>
<td>393</td>
<td>100</td>
<td>340</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>8.74</td>
<td>309CU340□□□</td>
</tr>
<tr>
<td>417</td>
<td>100</td>
<td>364</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>9.09</td>
<td>309CU364□□□</td>
</tr>
<tr>
<td>472</td>
<td>100</td>
<td>419</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>9.98</td>
<td>309CU419□□□</td>
</tr>
<tr>
<td>541</td>
<td>100</td>
<td>488</td>
<td>75.5</td>
<td>200-300-350-400-500-600</td>
<td>10.86</td>
<td>309CU488□□□</td>
</tr>
</tbody>
</table>

L=LSA + M or M1
Length of chain (L)=
Half travel distance LSA plus length of curve (M) or (M1)

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

![Nylon Type Diagram]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309CU064</td>
<td>92</td>
</tr>
<tr>
<td>309CU084</td>
<td>112</td>
</tr>
<tr>
<td>309CU109</td>
<td>137</td>
</tr>
<tr>
<td>309CU139</td>
<td>144</td>
</tr>
<tr>
<td>309CU179</td>
<td>167</td>
</tr>
<tr>
<td>309CU214</td>
<td>207</td>
</tr>
<tr>
<td>309CU240</td>
<td>242</td>
</tr>
<tr>
<td>309CU264</td>
<td>268</td>
</tr>
<tr>
<td>309CU290</td>
<td>292</td>
</tr>
<tr>
<td>309CU314</td>
<td>318</td>
</tr>
<tr>
<td>309CU340</td>
<td>342</td>
</tr>
<tr>
<td>309CU364</td>
<td>368</td>
</tr>
<tr>
<td>309CU390</td>
<td>392</td>
</tr>
<tr>
<td>309CU419</td>
<td>447</td>
</tr>
<tr>
<td>309CU488</td>
<td>516</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers

- Complete Set Assembled: AN309CU□□□KM
- Complete Set Unassembled: AN309CU□□□K

Steel Type

![Steel Type Diagram]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309CU064</td>
<td>50</td>
</tr>
<tr>
<td>309CU084</td>
<td>70</td>
</tr>
<tr>
<td>309CU109</td>
<td>95</td>
</tr>
<tr>
<td>309CU139</td>
<td>102</td>
</tr>
<tr>
<td>309CU179</td>
<td>125</td>
</tr>
<tr>
<td>309CU214</td>
<td>165</td>
</tr>
<tr>
<td>309CU240</td>
<td>200</td>
</tr>
<tr>
<td>309CU264</td>
<td>226</td>
</tr>
<tr>
<td>309CU290</td>
<td>250</td>
</tr>
<tr>
<td>309CU314</td>
<td>276</td>
</tr>
<tr>
<td>309CU340</td>
<td>300</td>
</tr>
<tr>
<td>309CU364</td>
<td>326</td>
</tr>
<tr>
<td>309CU390</td>
<td>350</td>
</tr>
<tr>
<td>309CU419</td>
<td>405</td>
</tr>
<tr>
<td>309CU488</td>
<td>474</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled: A309CU□□□KM
- Complete Set Unassembled: A309CU□□□K

Tie-wrap Clamp Part Numbers

- Complete Set Assembled: SFCT309S□□□KM
- Complete Set Unassembled: SFCT309S□□□K

□ Possible mounting positions: 1/2/3 [acc. to page 33]
**SILVYN® CHAIN 309B**

Nylon Cable Chain with opening frames

---

**Technical data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner Height (D)</td>
<td>70 mm</td>
</tr>
<tr>
<td>Pitch (P)</td>
<td>100 mm</td>
</tr>
<tr>
<td>Speed</td>
<td>8 m/s</td>
</tr>
<tr>
<td>Acceleration</td>
<td>40 m/s²</td>
</tr>
</tbody>
</table>

---

**Separator**

<table>
<thead>
<tr>
<th>Unassembled</th>
<th>Assembled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article number</td>
<td>S309C</td>
</tr>
<tr>
<td>MCI: chain opening outer radius</td>
<td>S309CMC</td>
</tr>
<tr>
<td>MCE: chain opening inner radius</td>
<td>PG309H</td>
</tr>
</tbody>
</table>

---

**Self-Supporting Capacity Diagram**

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

![Nylon Chain Diagram]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309B100</td>
<td>87</td>
</tr>
<tr>
<td>309B150</td>
<td>137</td>
</tr>
<tr>
<td>309B200</td>
<td>187</td>
</tr>
<tr>
<td>309B250</td>
<td>237</td>
</tr>
<tr>
<td>309B300</td>
<td>287</td>
</tr>
<tr>
<td>309B400</td>
<td>387</td>
</tr>
<tr>
<td>309□□□</td>
<td>F=A-66</td>
</tr>
</tbody>
</table>

Steel Type

![Steel Chain Diagram]

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309B100</td>
<td>129</td>
</tr>
<tr>
<td>309B150</td>
<td>179</td>
</tr>
<tr>
<td>309B200</td>
<td>229</td>
</tr>
<tr>
<td>309B250</td>
<td>279</td>
</tr>
<tr>
<td>309B300</td>
<td>329</td>
</tr>
<tr>
<td>309B400</td>
<td>429</td>
</tr>
<tr>
<td>309□□□</td>
<td>F=A-24</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: AN309KM
- Complete Set Unassembled: AN309K

Tiewarp Clamp Part Numbers
- Complete Set Assembled: CFC309□□□KM
- Complete Set Unassembled: CFC309□□□K

Steel Type Part Numbers
- Complete Set Assembled: A309KM□
- Complete Set Unassembled: A309K□

Tiewarp Clamp Part Numbers
- Complete Set Assembled: SFCT309□□□KM
- Complete Set Unassembled: SFCT309□□□K

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 309T
Nylon cable chain with un-screwable aluminium rods.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>153</td>
<td>100</td>
<td>100</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.48</td>
<td>309T100□□□□□</td>
</tr>
<tr>
<td>203</td>
<td>100</td>
<td>150</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.81</td>
<td>309T150□□□□□</td>
</tr>
<tr>
<td>253</td>
<td>100</td>
<td>200</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>5.09</td>
<td>309T200□□□□□</td>
</tr>
<tr>
<td>303</td>
<td>100</td>
<td>250</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>5.37</td>
<td>309T250□□□□□</td>
</tr>
<tr>
<td>353</td>
<td>100</td>
<td>300</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>5.65</td>
<td>309T300□□□□□</td>
</tr>
<tr>
<td>453</td>
<td>100</td>
<td>400</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>6.26</td>
<td>309T400□□□□□</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>...</td>
<td>...</td>
<td>309T□□□□□□□□</td>
</tr>
</tbody>
</table>

C+53 to be filled with Radius R

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

### Nylon Type

**Nylon Type Part Numbers**
- **Complete Set Assembled:** AN309KM
- **Complete Set Unassembled:** AN309K

**Tie-wrap Clamp Part Numbers**
- **Complete Set Assembled:** CFC309□□□KM
- **Complete Set Unassembled:** CFC309□□□K

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309T100</td>
<td>87</td>
</tr>
<tr>
<td>309T150</td>
<td>137</td>
</tr>
<tr>
<td>309T200</td>
<td>187</td>
</tr>
<tr>
<td>309T250</td>
<td>237</td>
</tr>
<tr>
<td>309T300</td>
<td>287</td>
</tr>
<tr>
<td>309T400</td>
<td>387</td>
</tr>
<tr>
<td>309T□□□</td>
<td>F=A-66</td>
</tr>
</tbody>
</table>

### Stahl Version

**Steel Type Part Numbers**
- **Complete Set Assembled:** A309KM
- **Complete Set Unassembled:** A309K

**Tie-wrap Clamp Part Numbers**
- **Complete Set Assembled:** SFCT309□□□KM
- **Complete Set Unassembled:** SFCT309□□□K

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>309T100</td>
<td>129</td>
</tr>
<tr>
<td>309T150</td>
<td>179</td>
</tr>
<tr>
<td>309T200</td>
<td>229</td>
</tr>
<tr>
<td>309T250</td>
<td>279</td>
</tr>
<tr>
<td>309T300</td>
<td>329</td>
</tr>
<tr>
<td>309T400</td>
<td>429</td>
</tr>
<tr>
<td>309T□□□</td>
<td>F=A-24</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Guide Channel for 250L

Special channel guide allows the use of the chain for long travel distance. Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Double Chain Application

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws
Guide Empty Section
Section A-A

Guide Sliding Plate Section
Section B-B

Part Number
CS...

How to order
Chain part number 250L035060
Guide channel part number CS250L035

Part Number
CA...

How to order
Chain part number 250L035060
Guide channel part number CA250L035

For current information see: www.lappgroup.com
Nylon cable chain for multiple use

Guide Channel for

325 - 335

Special channel guide allows the use of the chain for long travel distance.
Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Double Chain Application

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws

For current information see: www.lappgroup.com
Guide Empty Section
Section A-A

Guide Sliding Plate Section 325...
Section B-B

Guide Sliding Plate Section 335
Section B-B

Part Number
CS...
How to order
Chain part number 325L040050
Chain part number 325LI040050
Chain part number 325LE040050
Guide channel part number CS325L040

Part Number
CA...
How to order
Chain part number 325L040050
Chain part number 325LI040050
Chain part number 325LE040050
Guide channel part number CA325L040

Part Number
CA...
How to order
Chain part number 335040050
Guide channel part number CA335040

For current information see: www.lappgroup.com
Nylon cable chain for multiple use
Cable chain carriers • Guide Channel

Guide Channel for
445 - 660 - 770 - H57

Special channel guide allows the use of the chain for long travel distance.
Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

![Diagram of Single Chain Application]

Double Chain Application

![Diagram of Double Chain Application]

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws

For current information see: www.lappgroup.com
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Steel Sliding Plate
Section B-B

Guide with Plastic Sliding Plate
Section B-B

<table>
<thead>
<tr>
<th>Part Number</th>
<th>How to order</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS...</td>
<td></td>
</tr>
<tr>
<td>CR...</td>
<td></td>
</tr>
<tr>
<td>CA...</td>
<td></td>
</tr>
<tr>
<td>CP...</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>445</td>
<td>64</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
<tr>
<td>660A</td>
<td>59</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
<tr>
<td>770A</td>
<td>79</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
<tr>
<td>H57</td>
<td>85</td>
<td>190</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
Nylon cable chains for heavy duty applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN H45SC</td>
<td>140</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57SC</td>
<td>142</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57PC/PN</td>
<td>144</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57B</td>
<td>146</td>
</tr>
<tr>
<td>SILVYN® CHAIN H57T</td>
<td>148</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80SC/SA</td>
<td>150</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80PC/PA</td>
<td>152</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80B</td>
<td>154</td>
</tr>
<tr>
<td>SILVYN® CHAIN H80T</td>
<td>156</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110SC/SA</td>
<td>158</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110PC/PA</td>
<td>160</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110B</td>
<td>162</td>
</tr>
<tr>
<td>SILVYN® CHAIN H110T</td>
<td>164</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide Channel</td>
<td>166</td>
</tr>
<tr>
<td>Separation System</td>
<td>204</td>
</tr>
<tr>
<td>Cable Strain Relief Systems</td>
<td>266</td>
</tr>
</tbody>
</table>
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H45SC
Nylon Cable Chain with opening frames

Technical data

- Inner Height (D): 45 mm
- Pitch (P): 75 mm
- Height Moving Point (W): 200 mm
- Speed: 8 m/s
- Acceleration: 40 m/s²
- Allen wrench: 8 mm

Separator

Unassembled: Article number S45CF3
Assembled: Article number S45CF3MCI, S45CF3MCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Strong-hold separator for C > 250 mm
Unassembled: Article number S45HOF1
Assembled: Article number S45HOF1
Pin: Article number PNH45RS

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tielwrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H57SC075</td>
<td>55.5</td>
<td>91</td>
</tr>
<tr>
<td>H57SC100</td>
<td>80.5</td>
<td>116</td>
</tr>
<tr>
<td>H57SC125</td>
<td>105.5</td>
<td>141</td>
</tr>
<tr>
<td>H57SC150</td>
<td>130.5</td>
<td>166</td>
</tr>
<tr>
<td>H57SC175</td>
<td>155.5</td>
<td>191</td>
</tr>
<tr>
<td>H57SC200</td>
<td>180.5</td>
<td>216</td>
</tr>
<tr>
<td>H57SC225</td>
<td>205.5</td>
<td>241</td>
</tr>
<tr>
<td>H57SC250</td>
<td>230.5</td>
<td>266</td>
</tr>
<tr>
<td>H57SC275</td>
<td>255.5</td>
<td>291</td>
</tr>
<tr>
<td>H57SC300</td>
<td>280.5</td>
<td>316</td>
</tr>
<tr>
<td>H57SC350</td>
<td>330.5</td>
<td>366</td>
</tr>
<tr>
<td>H57SC400</td>
<td>380.5</td>
<td>416</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  ANH45SC□□□KM□
- Complete Set Unassembled
  ANH45SC□□□K

Tiewarp Clamp Part Numbers
- Complete Set Assembled
  SFCTH45□□□KMA
- Complete Set Unassembled
  SFCTH45□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H57SC
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>85</td>
<td>75</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.03</td>
<td>H57SC075□□□</td>
</tr>
<tr>
<td>138</td>
<td>85</td>
<td>100</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.09</td>
<td>H57SC100□□□</td>
</tr>
<tr>
<td>163</td>
<td>85</td>
<td>125</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.16</td>
<td>H57SC125□□□</td>
</tr>
<tr>
<td>188</td>
<td>85</td>
<td>150</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.22</td>
<td>H57SC150□□□</td>
</tr>
<tr>
<td>213</td>
<td>85</td>
<td>175</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.29</td>
<td>H57SC175□□□</td>
</tr>
<tr>
<td>238</td>
<td>85</td>
<td>200</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.35</td>
<td>H57SC200□□□</td>
</tr>
<tr>
<td>263</td>
<td>85</td>
<td>225</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.42</td>
<td>H57SC225□□□</td>
</tr>
<tr>
<td>288</td>
<td>85</td>
<td>250</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.48</td>
<td>H57SC250□□□</td>
</tr>
<tr>
<td>313</td>
<td>85</td>
<td>275</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.55</td>
<td>H57SC275□□□</td>
</tr>
<tr>
<td>338</td>
<td>85</td>
<td>300</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.61</td>
<td>H57SC300□□□</td>
</tr>
<tr>
<td>368</td>
<td>85</td>
<td>350</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.74</td>
<td>H57SC350□□□</td>
</tr>
<tr>
<td>388</td>
<td>85</td>
<td>400</td>
<td>57</td>
<td>150-180-200-250-300-350-400</td>
<td>3.88</td>
<td>H57SC400□□□</td>
</tr>
</tbody>
</table>

separator
Unassembled Article number S57CF3
Assembled Article number S57CF3MCI, S57CF3MCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Strong-hold separator for C > 200 mm
Unassembled Article number S57HOFL
Assembled Article number S57HOFL
Pin Article number PNH57RS

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H57SC075</td>
<td>51</td>
<td>98</td>
</tr>
<tr>
<td>H57SC100</td>
<td>76</td>
<td>123</td>
</tr>
<tr>
<td>H57SC125</td>
<td>101</td>
<td>148</td>
</tr>
<tr>
<td>H57SC150</td>
<td>126</td>
<td>173</td>
</tr>
<tr>
<td>H57SC175</td>
<td>151</td>
<td>198</td>
</tr>
<tr>
<td>H57SC200</td>
<td>176</td>
<td>223</td>
</tr>
<tr>
<td>H57SC225</td>
<td>201</td>
<td>248</td>
</tr>
<tr>
<td>H57SC250</td>
<td>226</td>
<td>273</td>
</tr>
<tr>
<td>H57SC275</td>
<td>251</td>
<td>298</td>
</tr>
<tr>
<td>H57SC300</td>
<td>276</td>
<td>323</td>
</tr>
<tr>
<td>H57SC350</td>
<td>326</td>
<td>373</td>
</tr>
<tr>
<td>H57SC400</td>
<td>376</td>
<td>423</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers

- Complete Set Assembled
  - ANH57KM□
- Complete Set Unassembled
  - ANH57K□

Tiewarp Clamp Part Numbers

- Complete Set Assembled
  - SFCTH57□□□KMA
- Complete Set Unassembled
  - SFCTH57□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN H57PC / PN
Nylon cable chain with openable aluminium/nylon covers

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
<th>Allen wrench</th>
</tr>
</thead>
<tbody>
<tr>
<td>53.5 mm</td>
<td>90 mm</td>
<td>250 mm</td>
<td>8 m/s</td>
<td>40 m/s²</td>
<td>8 mm</td>
</tr>
</tbody>
</table>

Separator H57PC

<table>
<thead>
<tr>
<th>Unassembled</th>
<th>Assembled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article number S57UA</td>
<td>Article number S57UAMCI, S57UAMCE</td>
</tr>
</tbody>
</table>

Separator H57PN

<table>
<thead>
<tr>
<th>Unassembled</th>
<th>Assembled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article number S57CF3</td>
<td>Article number S57CF3MCI, S57CF3MCE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MCI</th>
<th>MCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>chain opening outer radius</td>
<td>chain opening inner radius</td>
</tr>
</tbody>
</table>

Pin

| Article number PNH57RS |

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H57PC075</td>
<td>51</td>
<td>98</td>
</tr>
<tr>
<td>H57PC100</td>
<td>76</td>
<td>123</td>
</tr>
<tr>
<td>H57PC125</td>
<td>101</td>
<td>148</td>
</tr>
<tr>
<td>H57PC150</td>
<td>126</td>
<td>173</td>
</tr>
<tr>
<td>H57PC175</td>
<td>151</td>
<td>198</td>
</tr>
<tr>
<td>H57PC200</td>
<td>176</td>
<td>223</td>
</tr>
<tr>
<td>H57PC225</td>
<td>201</td>
<td>248</td>
</tr>
<tr>
<td>H57PC250</td>
<td>226</td>
<td>273</td>
</tr>
<tr>
<td>H57PC275</td>
<td>251</td>
<td>298</td>
</tr>
<tr>
<td>H57PC300</td>
<td>276</td>
<td>323</td>
</tr>
<tr>
<td>H57PC350</td>
<td>326</td>
<td>373</td>
</tr>
<tr>
<td>H57PC400</td>
<td>376</td>
<td>423</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled: ANH57PC□□□KM□
- Complete Set Unassembled: ANH57PC□□□K□

Tiewarp Clamp Part Numbers
- Complete Set Assembled: SFCTH57□□□KMA
- Complete Set Unassembled: SFCTH57□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN H57B
Nylon Cable Chain with opening frames

Technical data
- Inner Height (D): 55 mm
- Pitch (P): 90 mm
- Height Moving Point (W): 250 mm
- Speed: 8 m/s
- Acceleration: 40 m/s²
- Allen wrench: 8 mm

Separator
- Unassembled Article number S57BF
- Assembled Article number S57BFMC
- MCI: chain opening outer radius
- MCE: chain opening inner radius
- Pin Article number PNH57RS

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
<th>Allen wrench</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 mm</td>
<td>90 mm</td>
<td>250 mm</td>
<td>8 m/s</td>
<td>40 m/s²</td>
<td>8 mm</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H57B075</td>
<td>51</td>
<td>98</td>
</tr>
<tr>
<td>H57B100</td>
<td>76</td>
<td>123</td>
</tr>
<tr>
<td>H57B125</td>
<td>101</td>
<td>148</td>
</tr>
<tr>
<td>H57B150</td>
<td>126</td>
<td>173</td>
</tr>
<tr>
<td>H57B175</td>
<td>151</td>
<td>198</td>
</tr>
<tr>
<td>H57B200</td>
<td>176</td>
<td>223</td>
</tr>
<tr>
<td>H57B225</td>
<td>201</td>
<td>248</td>
</tr>
<tr>
<td>H57B250</td>
<td>226</td>
<td>273</td>
</tr>
<tr>
<td>H57B275</td>
<td>251</td>
<td>298</td>
</tr>
<tr>
<td>H57B300</td>
<td>276</td>
<td>323</td>
</tr>
<tr>
<td>H57B350</td>
<td>326</td>
<td>373</td>
</tr>
<tr>
<td>H57B400</td>
<td>376</td>
<td>423</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  ANH57KM□
- Complete Set Unassembled
  ANH57K□

Tiewarp Clamp Part Numbers
- Complete Set Assembled
  SFCTH57□□□KMA
- Complete Set Unassembled
  SFCTH57□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H57T
Nylon cable chain with un-screwable aluminium rods.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>85</td>
<td>75</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.03</td>
<td>H57T075□□□</td>
</tr>
<tr>
<td>138</td>
<td>85</td>
<td>100</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.09</td>
<td>H57T100□□□</td>
</tr>
<tr>
<td>163</td>
<td>85</td>
<td>125</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.16</td>
<td>H57T125□□□</td>
</tr>
<tr>
<td>188</td>
<td>85</td>
<td>150</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.22</td>
<td>H57T150□□□</td>
</tr>
<tr>
<td>213</td>
<td>85</td>
<td>175</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.29</td>
<td>H57T175□□□</td>
</tr>
<tr>
<td>238</td>
<td>85</td>
<td>200</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.35</td>
<td>H57T200□□□</td>
</tr>
<tr>
<td>263</td>
<td>85</td>
<td>225</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.42</td>
<td>H57T225□□□</td>
</tr>
<tr>
<td>288</td>
<td>85</td>
<td>250</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.48</td>
<td>H57T250□□□</td>
</tr>
<tr>
<td>313</td>
<td>85</td>
<td>275</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.55</td>
<td>H57T275□□□</td>
</tr>
<tr>
<td>338</td>
<td>85</td>
<td>300</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.61</td>
<td>H57T300□□□</td>
</tr>
<tr>
<td>363</td>
<td>85</td>
<td>325</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.74</td>
<td>H57T325□□□</td>
</tr>
<tr>
<td>388</td>
<td>85</td>
<td>350</td>
<td>56</td>
<td>150-180-200-250-300-350-400</td>
<td>3.88</td>
<td>H57T350□□□</td>
</tr>
</tbody>
</table>

L=LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H57T075</td>
<td>51</td>
<td>98</td>
</tr>
<tr>
<td>H57T100</td>
<td>76</td>
<td>123</td>
</tr>
<tr>
<td>H57T125</td>
<td>101</td>
<td>148</td>
</tr>
<tr>
<td>H57T150</td>
<td>126</td>
<td>173</td>
</tr>
<tr>
<td>H57T175</td>
<td>151</td>
<td>198</td>
</tr>
<tr>
<td>H57T200</td>
<td>176</td>
<td>223</td>
</tr>
<tr>
<td>H57T225</td>
<td>201</td>
<td>248</td>
</tr>
<tr>
<td>H57T250</td>
<td>226</td>
<td>273</td>
</tr>
<tr>
<td>H57T275</td>
<td>251</td>
<td>298</td>
</tr>
<tr>
<td>H57T300</td>
<td>276</td>
<td>323</td>
</tr>
<tr>
<td>H57T350</td>
<td>326</td>
<td>373</td>
</tr>
<tr>
<td>H57T400</td>
<td>376</td>
<td>423</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers

- Complete Set Assembled
  ANH57KM□
- Complete Set Unassembled
  ANH57K□

Tiewarp Clamp Part Numbers

- Complete Set Assembled
  SFCTH57□□□KMA
- Complete Set Unassembled
  SFCTH57□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
### Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chains for heavy duty

**SILVYN® CHAIN H80SC / SA**

Nylon Cable Chain with opening frames

---

#### Technical data

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner Height (D)</td>
<td>80.5 mm</td>
</tr>
<tr>
<td>Pitch (P)</td>
<td>120 mm</td>
</tr>
<tr>
<td>Height Moving Point (W)</td>
<td>300 mm</td>
</tr>
<tr>
<td>Speed (m/s)</td>
<td></td>
</tr>
<tr>
<td>Acceleration (m/s²)</td>
<td></td>
</tr>
<tr>
<td>Allen wrench</td>
<td>10 mm</td>
</tr>
</tbody>
</table>

---

#### Separator H80SC

- **Unassembled** Article number SH80SCF6
- **Assembled** Article number SH80SCF6MCI, SH80SCF6MCE

#### Separator H80SA

- **Unassembled** Article number S80
- **Assembled** Article number S80MCI, S80MCE

**MCI:** chain opening outer radius  
**MCE:** chain opening inner radius

#### Strong-hold separator for C > 200 mm H80SC

- **Unassembled** Article number SH80HOF6L
- **Assembled** Article number SH80HOF6LMC

#### Strong-hold separator for C > 200 mm H80SA

- **Unassembled** Article number S80HOF6L
- **Assembled** Article number S80HOF6LMC

**Pin** Article number PNH80RS

---

#### Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H80SC150</td>
<td>124</td>
<td>177.5</td>
</tr>
<tr>
<td>H80SC175</td>
<td>149</td>
<td>202.5</td>
</tr>
<tr>
<td>H80SC200</td>
<td>174</td>
<td>227.5</td>
</tr>
<tr>
<td>H80SC225</td>
<td>199</td>
<td>252.5</td>
</tr>
<tr>
<td>H80SC250</td>
<td>224</td>
<td>277.5</td>
</tr>
<tr>
<td>H80SC275</td>
<td>249</td>
<td>302.5</td>
</tr>
<tr>
<td>H80SC300</td>
<td>274</td>
<td>327.5</td>
</tr>
<tr>
<td>H80SC325</td>
<td>299</td>
<td>352.5</td>
</tr>
<tr>
<td>H80SC350</td>
<td>324</td>
<td>377.5</td>
</tr>
<tr>
<td>H80SC375</td>
<td>349</td>
<td>402.5</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
Complete Set Assembled
ANH80KM□
Complete Set Unassembled
ANH80K□

Tiewarp Clamp Part Numbers
Complete Set Assembled
SFCTH80□□□KMA
Complete Set Unassembled
SFCTH80□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H80PC / PA
Nylon Protection cable chain with openable aluminium covers.

Technical data
- Inner Height (D): 77 mm
- Pitch (P): 120 mm
- Height Moving Point (W): 300 mm
- Speed: 8 m/s
- Acceleration: 40 m/s²
- Allen wrench: 10 mm

Separator H80PC
- Unassembled Article number SH80SFC6
- Assembled Article number SH80SCF6MCI, SH80SCF6MCE

Separator H80PA
- Unassembled Article number S80F
- Assembled Article number S80FMCI, S80FMCE

MCI: chain opening outer radius
MCE: chain opening inner radius
Pin: Article number PNH80RS

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H80PC150</td>
<td>124</td>
<td>177.5</td>
</tr>
<tr>
<td>H80PC175</td>
<td>149</td>
<td>202.5</td>
</tr>
<tr>
<td>H80PC200</td>
<td>174</td>
<td>227.5</td>
</tr>
<tr>
<td>H80PC225</td>
<td>199</td>
<td>252.5</td>
</tr>
<tr>
<td>H80PC250</td>
<td>224</td>
<td>277.5</td>
</tr>
<tr>
<td>H80PC275</td>
<td>249</td>
<td>302.5</td>
</tr>
<tr>
<td>H80PC300</td>
<td>274</td>
<td>327.5</td>
</tr>
<tr>
<td>H80PC325</td>
<td>299</td>
<td>352.5</td>
</tr>
<tr>
<td>H80PC350</td>
<td>324</td>
<td>377.5</td>
</tr>
<tr>
<td>H80PC375</td>
<td>349</td>
<td>402.5</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  ANH80PA□□□KM□
- Complete Set Unassembled
  ANH80PA□□□K□

Tiwrap Clamp Part Numbers
- Complete Set Assembled
  SFCTH80□□□KMA
- Complete Set Unassembled
  SFCTH80□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H80B
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>205</td>
<td>114</td>
<td>150</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>6.70</td>
<td>H80B150□□□</td>
</tr>
<tr>
<td>225</td>
<td>114</td>
<td>175</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>6.87</td>
<td>H80B175□□□</td>
</tr>
<tr>
<td>255</td>
<td>114</td>
<td>200</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>7.04</td>
<td>H80B200□□□</td>
</tr>
<tr>
<td>280</td>
<td>114</td>
<td>225</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>7.20</td>
<td>H80B225□□□</td>
</tr>
<tr>
<td>305</td>
<td>114</td>
<td>250</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>7.37</td>
<td>H80B250□□□</td>
</tr>
<tr>
<td>330</td>
<td>114</td>
<td>275</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>7.52</td>
<td>H80B275□□□</td>
</tr>
<tr>
<td>355</td>
<td>114</td>
<td>300</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>7.66</td>
<td>H80B300□□□</td>
</tr>
<tr>
<td>380</td>
<td>114</td>
<td>325</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>7.66</td>
<td>H80B325□□□</td>
</tr>
<tr>
<td>405</td>
<td>114</td>
<td>350</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>8.05</td>
<td>H80B350□□□</td>
</tr>
<tr>
<td>430</td>
<td>114</td>
<td>375</td>
<td>81</td>
<td>200-250-300-350-400-500-600</td>
<td>8.23</td>
<td>H80B375□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number SH80F
Assembled Article number SH80FMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PNH80RS

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H80B150</td>
<td>124</td>
<td>177.5</td>
</tr>
<tr>
<td>H80B175</td>
<td>149</td>
<td>202.5</td>
</tr>
<tr>
<td>H80B200</td>
<td>174</td>
<td>227.5</td>
</tr>
<tr>
<td>H80B225</td>
<td>199</td>
<td>252.5</td>
</tr>
<tr>
<td>H80B250</td>
<td>224</td>
<td>277.5</td>
</tr>
<tr>
<td>H80B275</td>
<td>249</td>
<td>302.5</td>
</tr>
<tr>
<td>H80B300</td>
<td>274</td>
<td>327.5</td>
</tr>
<tr>
<td>H80B325</td>
<td>299</td>
<td>352.5</td>
</tr>
<tr>
<td>H80B350</td>
<td>324</td>
<td>377.5</td>
</tr>
<tr>
<td>H80B375</td>
<td>349</td>
<td>402.5</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  - ANH80KM□
- Complete Set Unassembled
  - ANH80IC□

Tiewarp Clamp Part Numbers
- Complete Set Assembled
  - SFCTH80□□□KMA
- Complete Set Unassembled
  - SFCTH80□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN H80T
Nylon cable chain with unscrewable aluminium rods.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight kg/m</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>205</td>
<td>114</td>
<td>150</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>6.70</td>
<td>H80T150</td>
</tr>
<tr>
<td>225</td>
<td>114</td>
<td>175</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>6.87</td>
<td>H80T175</td>
</tr>
<tr>
<td>255</td>
<td>114</td>
<td>200</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>7.04</td>
<td>H80T200</td>
</tr>
<tr>
<td>280</td>
<td>114</td>
<td>225</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>7.20</td>
<td>H80T225</td>
</tr>
<tr>
<td>305</td>
<td>114</td>
<td>250</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>7.37</td>
<td>H80T250</td>
</tr>
<tr>
<td>330</td>
<td>114</td>
<td>275</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>7.52</td>
<td>H80T275</td>
</tr>
<tr>
<td>355</td>
<td>114</td>
<td>300</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>7.66</td>
<td>H80T300</td>
</tr>
<tr>
<td>380</td>
<td>114</td>
<td>325</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>7.86</td>
<td>H80T325</td>
</tr>
<tr>
<td>405</td>
<td>114</td>
<td>350</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>8.05</td>
<td>H80T350</td>
</tr>
<tr>
<td>430</td>
<td>114</td>
<td>375</td>
<td>84</td>
<td>200-250-300-350-400-500-600</td>
<td>8.23</td>
<td>H80T375</td>
</tr>
</tbody>
</table>

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Nylon Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H80T150</td>
<td>124</td>
<td>177.5</td>
</tr>
<tr>
<td>H80T175</td>
<td>149</td>
<td>202.5</td>
</tr>
<tr>
<td>H80T200</td>
<td>174</td>
<td>237.5</td>
</tr>
<tr>
<td>H80T225</td>
<td>199</td>
<td>262.5</td>
</tr>
<tr>
<td>H80T250</td>
<td>224</td>
<td>277.5</td>
</tr>
<tr>
<td>H80T275</td>
<td>249</td>
<td>302.5</td>
</tr>
<tr>
<td>H80T300</td>
<td>274</td>
<td>327.5</td>
</tr>
<tr>
<td>H80T325</td>
<td>299</td>
<td>352.5</td>
</tr>
<tr>
<td>H80T350</td>
<td>324</td>
<td>377.5</td>
</tr>
<tr>
<td>H80T375</td>
<td>349</td>
<td>402.5</td>
</tr>
</tbody>
</table>

Nylon Type Part Numbers
- Complete Set Assembled
  - ANH80KM□
- Complete Set Unassembled
  - ANH80K□

Tiewarp Clamp Part Numbers
- Complete Set Assembled
  - SFCTH80□□□KMA
- Complete Set Unassembled
  - SFCTH80□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H110SC / SA
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
<th>Allen wrench</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 mm</td>
<td>160 mm</td>
<td>350 mm</td>
<td>8 m/s</td>
<td>40 m/s²</td>
<td>10 mm</td>
</tr>
</tbody>
</table>

Separator H110SC
Unassembled: Article number S110F3/8687
Assembled: Article number S110F3/8687MCI, S110F3/8687MCE

Separator H110SA
Unassembled: Article number S110F3/8687
Assembled: Article number S110F3/8687

Strong-hold separator for C > 250 mm
Unassembled: Article number S110HOFL
Assembled: Article number PNH110RS

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewarp clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>110SC150</td>
<td>120</td>
<td>112</td>
</tr>
<tr>
<td>110SC175</td>
<td>145</td>
<td>137</td>
</tr>
<tr>
<td>110SC200</td>
<td>170</td>
<td>162</td>
</tr>
<tr>
<td>110SC225</td>
<td>195</td>
<td>187</td>
</tr>
<tr>
<td>110SC250</td>
<td>220</td>
<td>212</td>
</tr>
<tr>
<td>110SC275</td>
<td>245</td>
<td>237</td>
</tr>
<tr>
<td>110SC300</td>
<td>270</td>
<td>262</td>
</tr>
<tr>
<td>110SC325</td>
<td>295</td>
<td>287</td>
</tr>
<tr>
<td>110SC350</td>
<td>320</td>
<td>312</td>
</tr>
<tr>
<td>110SC375</td>
<td>344</td>
<td>336</td>
</tr>
<tr>
<td>110SA429</td>
<td>399</td>
<td>391</td>
</tr>
<tr>
<td>110SA498</td>
<td>468</td>
<td>460</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A110SC□□□XM□</td>
</tr>
<tr>
<td>A110SA□□□XM□</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A110SC□□□K□</td>
</tr>
<tr>
<td>A110SA□□□K□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiewarp Clamp Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>SFCT110□□□KMA</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>SFCT110□□□KA</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H110PC / PA
Nylon Protection cable chain with openable aluminium covers.

**Technical data**
- Inner Height (D): 105 mm
- Pitch (P): 160 mm
- Height Moving Point (W): 350 mm
- Speed: 10 m/s
- Acceleration: 50 m/s²
- Allen wrench: 10 mm

**Separator H110PC**
- Unassembled: Article number S110F3/8687
- Assembled: Article number S110F3/8687MCI, S110F3/8687MCE

**Separator H110PA**
- Unassembled: Article number S110F3/8687
- Assembled: Article number S110F3/8687MCI, S110F3/8687MCE
  - MCI: chain opening outer radius
  - MCE: chain opening inner radius

**Pin**
- Article number PNH110RS

**Self-Supporting Capacity Diagram**
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>110PC150</td>
<td>120</td>
<td>112</td>
</tr>
<tr>
<td>110PC175</td>
<td>145</td>
<td>137</td>
</tr>
<tr>
<td>110PC200</td>
<td>170</td>
<td>162</td>
</tr>
<tr>
<td>110PC225</td>
<td>195</td>
<td>187</td>
</tr>
<tr>
<td>110PC250</td>
<td>220</td>
<td>212</td>
</tr>
<tr>
<td>110PC275</td>
<td>245</td>
<td>237</td>
</tr>
<tr>
<td>110PC300</td>
<td>270</td>
<td>262</td>
</tr>
<tr>
<td>110PC325</td>
<td>295</td>
<td>287</td>
</tr>
<tr>
<td>110PC350</td>
<td>320</td>
<td>312</td>
</tr>
<tr>
<td>110PC375</td>
<td>344</td>
<td>336</td>
</tr>
<tr>
<td>110PA429</td>
<td>399</td>
<td>391</td>
</tr>
<tr>
<td>110PA498</td>
<td>468</td>
<td>460</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
- Complete Set Assembled
  - A110PC□□□XM□
  - A110PA□□□XM□
- Complete Set Unassembled
  - A110PC□□□K□
  - A110PA□□□K□

Tie-Wrap Clamp Part Numbers
- Complete Set Assembled
  - SFCT11□□□KM□
- Complete Set Unassembled
  - SFCT11□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chains for heavy duty

SILVYN® CHAIN H110B
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner Height (D)</td>
<td>110 mm</td>
</tr>
<tr>
<td>Pitch (P)</td>
<td>160 mm</td>
</tr>
<tr>
<td>Height Moving Point (W)</td>
<td>350 mm</td>
</tr>
<tr>
<td>Speed</td>
<td>4 m/s</td>
</tr>
<tr>
<td>Acceleration</td>
<td>20 m/s²</td>
</tr>
<tr>
<td>Allen wrench</td>
<td>10 mm</td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S310F
Assembled Article number S310FMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PNH110RS

Separator

L=LSA + M1 or M1
Length of chain (L)= Half travel distance LSA plus length of curve (M) or (M1)

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>110B200</td>
<td>170</td>
<td>162</td>
</tr>
<tr>
<td>110B300</td>
<td>270</td>
<td>262</td>
</tr>
<tr>
<td>110B400</td>
<td>370</td>
<td>362</td>
</tr>
<tr>
<td>110B500</td>
<td>470</td>
<td>462</td>
</tr>
<tr>
<td>110B600</td>
<td>570</td>
<td>562</td>
</tr>
<tr>
<td>110B□□□</td>
<td>F=C-30</td>
<td>F=C-38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A110BKM□</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A110BK□□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiwrap Clamp Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>SFCT110□□□□KMA</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>SFCT110□□□□KA</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN H 110T
Nylon cable chain with un-screwable aluminium rods.

Technical data

| Inner Height (D) | 112.5 mm |
| Pitch (P)       | 160 mm   |
| Height Moving Point (W) | 350 mm |
| Speed          | 4 m/s    |
| Acceleration   | 20 m/s²  |
| Allen wrench   | 10 mm    |

Separator
Unassembled Article number S310TCF9
Assembled Article number S310TCF9MC
MCI: chain opening outer radius
MCE: chain opening inner radius

Pin Article number PNH110RS

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>110T200</td>
<td>170</td>
<td>162</td>
</tr>
<tr>
<td>110T300</td>
<td>270</td>
<td>262</td>
</tr>
<tr>
<td>110T400</td>
<td>370</td>
<td>362</td>
</tr>
<tr>
<td>110T500</td>
<td>470</td>
<td>462</td>
</tr>
<tr>
<td>110T600</td>
<td>570</td>
<td>562</td>
</tr>
<tr>
<td>110T□□□</td>
<td>F=C-30</td>
<td>F=C-38</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**
- Complete Set Assembled
  - AH110TKM□
- Complete Set Unassembled
  - AH110TK□

**Tie-Wrap Clamp Part Numbers**
- Complete Set Assembled
  - SFCT110□□□KMA
- Complete Set Unassembled
  - SFCT110□□□KA

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Guide Channel for

H45 - H57

Special channel guide allows the use of the chain for long travel distance. Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Double Chain Application

Channel guide is available in kit form composed of:
side walls 2 m standard length
joining plates
fixing screws
Empty Guide Section

Section A-A

Guide with Nylon Rollers

Section B-B

Guide with Steel Sliding Plate

Section B-B

Guide with Plastic Sliding Plate

Section B-B

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>H45</td>
<td>79</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1.5</td>
</tr>
<tr>
<td>H57</td>
<td>85</td>
<td>190</td>
<td>A+4</td>
<td>A+87</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Part Number
CS...

How to order
Chain part number: H57100150
Guide channel part number: CSH57100

Part Number
CR...

How to order
Chain part number: H57100150
Guide channel part number: CRH57100

Part Number
CA...

How to order
Chain part number: H57100150
Guide channel part number: CAH57100

Part Number
CP...

How to order
Chain part number: H57100150
Guide channel part number: CPH57100

For current information see: www.lappgroup.com
Aluminium Guide Channel for H57

Special channel guide allows the use of the chain for long travel distance.
Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Channel guide is available in kit form composed of:
side walls 2 m standard length
joining plates
fixing screws

Double Chain Application
Empty Guide Section

Section A-A

![Diagram of Empty Guide Section]

Guide with Nylon Rollers

Section B-B

![Diagram of Guide with Nylon Rollers]

Guide with Plastic Sliding Plate

Section B-B

![Diagram of Guide with Plastic Sliding Plate]

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>H57</td>
<td>96</td>
<td>200</td>
<td>A+4</td>
<td>A+87</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Part Number CSAH57...

How to order

<table>
<thead>
<tr>
<th>Chain part number</th>
<th>CSAH57100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide channel part number</td>
<td>CSAH57100</td>
</tr>
</tbody>
</table>

Part Number CRAH57...

How to order

<table>
<thead>
<tr>
<th>Chain part number</th>
<th>CRAH57100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide channel part number</td>
<td>CRAH57100</td>
</tr>
</tbody>
</table>

Part Number CPAH57...

How to order

<table>
<thead>
<tr>
<th>Chain part number</th>
<th>CPAH57100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide channel part number</td>
<td>CPAH57100</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
Guide Channel for
H80 - H110

Special channel guide allows the use of the chain for long travel distance.
Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

![Single Chain Application Diagram]

Double Chain Application

Channel guide is available in kit form composed of:
side walls 2 m standard length
joining plates
fixing screws

![Double Chain Application Diagram]
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Steel Sliding Plate
Section B-B

Guide with Plastic Sliding Plate
Section B-B

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>H80</td>
<td>117</td>
<td>250</td>
<td>A+8</td>
<td>A+92</td>
<td>2</td>
</tr>
<tr>
<td>H110</td>
<td>155</td>
<td>324</td>
<td>A+8</td>
<td>A+93</td>
<td>2,5</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
# Nylon cable chains for sliding applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 326SU</td>
<td>174</td>
</tr>
<tr>
<td>SILVYN® CHAIN 326B</td>
<td>176</td>
</tr>
<tr>
<td>SILVYN® CHAIN 328SU</td>
<td>178</td>
</tr>
<tr>
<td>SILVYN® CHAIN 328B</td>
<td>180</td>
</tr>
<tr>
<td>SILVYN® CHAIN 329SU</td>
<td>182</td>
</tr>
<tr>
<td>SILVYN® CHAIN 329CD</td>
<td>184</td>
</tr>
<tr>
<td>SILVYN® CHAIN 329B</td>
<td>186</td>
</tr>
<tr>
<td>SILVYN® CHAIN 478MU</td>
<td>188</td>
</tr>
<tr>
<td>SILVYN® CHAIN 478PU</td>
<td>190</td>
</tr>
<tr>
<td>SILVYN® CHAIN 60PU</td>
<td>192</td>
</tr>
<tr>
<td>SILVYN® CHAIN 60VU</td>
<td>194</td>
</tr>
<tr>
<td>SILVYN® CHAIN 80PU</td>
<td>196</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide Channel</td>
<td>198</td>
</tr>
<tr>
<td>Separation System</td>
<td>202</td>
</tr>
<tr>
<td>Cable Strain Relief Systems</td>
<td>266</td>
</tr>
</tbody>
</table>
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 326SU
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>37 mm</td>
<td>65 mm</td>
<td>200 mm</td>
<td>2 m/s</td>
<td>4 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Pin Article number PG307

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>106</td>
<td>59</td>
<td>61</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.33</td>
<td>326SU066□□□</td>
</tr>
<tr>
<td>117</td>
<td>59</td>
<td>72</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.33</td>
<td>326SU072□□□</td>
</tr>
<tr>
<td>131</td>
<td>59</td>
<td>86</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.40</td>
<td>326SU086□□□</td>
</tr>
<tr>
<td>137</td>
<td>59</td>
<td>92</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.41</td>
<td>326SU092□□□</td>
</tr>
<tr>
<td>151</td>
<td>59</td>
<td>106</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.46</td>
<td>326SU106□□□</td>
</tr>
<tr>
<td>156</td>
<td>59</td>
<td>111</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.46</td>
<td>326SU111□□□</td>
</tr>
<tr>
<td>163</td>
<td>59</td>
<td>118</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.48</td>
<td>326SU118□□□</td>
</tr>
<tr>
<td>173</td>
<td>59</td>
<td>128</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.49</td>
<td>326SU128□□□</td>
</tr>
<tr>
<td>181</td>
<td>59</td>
<td>136</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.54</td>
<td>326SU136□□□</td>
</tr>
<tr>
<td>192</td>
<td>59</td>
<td>147</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.57</td>
<td>326SU147□□□</td>
</tr>
<tr>
<td>206</td>
<td>59</td>
<td>161</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.61</td>
<td>326SU161□□□</td>
</tr>
<tr>
<td>213</td>
<td>59</td>
<td>186</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.68</td>
<td>326SU186□□□</td>
</tr>
<tr>
<td>256</td>
<td>59</td>
<td>211</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.75</td>
<td>326SU211□□□</td>
</tr>
<tr>
<td>267</td>
<td>59</td>
<td>222</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.79</td>
<td>326SU222□□□</td>
</tr>
<tr>
<td>281</td>
<td>59</td>
<td>236</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.83</td>
<td>326SU236□□□</td>
</tr>
<tr>
<td>308</td>
<td>59</td>
<td>263</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.91</td>
<td>326SU263□□□</td>
</tr>
<tr>
<td>317</td>
<td>59</td>
<td>272</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>1.93</td>
<td>326SU272□□□</td>
</tr>
<tr>
<td>368</td>
<td>59</td>
<td>323</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>2.06</td>
<td>326SU323□□□</td>
</tr>
<tr>
<td>390</td>
<td>59</td>
<td>345</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>2.10</td>
<td>326SU345□□□</td>
</tr>
<tr>
<td>418</td>
<td>59</td>
<td>373</td>
<td>37</td>
<td>107-150-200-250-300</td>
<td>2.21</td>
<td>326SU373□□□</td>
</tr>
</tbody>
</table>

L = LSA + M or M1

Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307

Separator

Unassembled Article number S306SM
Assembled Article number S306SMMCI, S306SMMCE

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S660AH
Assembled Article number S660AHMC

Pin Article number PG307
**End brackets**
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>326SU061</td>
<td>58</td>
</tr>
<tr>
<td>326SU072</td>
<td>69</td>
</tr>
<tr>
<td>326SU086</td>
<td>83</td>
</tr>
<tr>
<td>326SU092</td>
<td>89</td>
</tr>
<tr>
<td>326SU096</td>
<td>93</td>
</tr>
<tr>
<td>326SU106</td>
<td>103</td>
</tr>
<tr>
<td>326SU111</td>
<td>108</td>
</tr>
<tr>
<td>326SU118</td>
<td>115</td>
</tr>
<tr>
<td>326SU128</td>
<td>125</td>
</tr>
<tr>
<td>326SU136</td>
<td>133</td>
</tr>
<tr>
<td>326SU147</td>
<td>144</td>
</tr>
<tr>
<td>326SU161</td>
<td>158</td>
</tr>
<tr>
<td>326SU186</td>
<td>183</td>
</tr>
<tr>
<td>326SU211</td>
<td>208</td>
</tr>
<tr>
<td>326SU222</td>
<td>219</td>
</tr>
<tr>
<td>326SU236</td>
<td>233</td>
</tr>
<tr>
<td>326SU263</td>
<td>260</td>
</tr>
<tr>
<td>326SU272</td>
<td>269</td>
</tr>
<tr>
<td>326SU323</td>
<td>320</td>
</tr>
<tr>
<td>326SU345</td>
<td>342</td>
</tr>
<tr>
<td>326SU373</td>
<td>370</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
<td>A326KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
<td>A326K</td>
</tr>
</tbody>
</table>

[□□□ Inner width (C)]
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 326B
Nylon cable chain with un-screwable aluminium rods.

Technical data

- **Inner Height (D)**
  - 30 mm

- **Pitch (P)**
  - 65 mm

- **Height Moving Point (W)**
  - 200 mm

- **Speed**
  - 2 m/s

- **Acceleration**
  - 4 m/s²

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>59</td>
<td>75</td>
<td>30</td>
<td>107-150-200-250-300</td>
<td>1.75</td>
<td>326B075□□□</td>
</tr>
<tr>
<td>140</td>
<td>59</td>
<td>100</td>
<td>30</td>
<td>107-150-200-250-300</td>
<td>1.80</td>
<td>326B100□□□</td>
</tr>
<tr>
<td>190</td>
<td>59</td>
<td>150</td>
<td>30</td>
<td>107-150-200-250-300</td>
<td>1.90</td>
<td>326B150□□□</td>
</tr>
<tr>
<td>240</td>
<td>59</td>
<td>200</td>
<td>30</td>
<td>107-150-200-250-300</td>
<td>2.05</td>
<td>326B200□□□</td>
</tr>
<tr>
<td>290</td>
<td>59</td>
<td>250</td>
<td>30</td>
<td>107-150-200-250-300</td>
<td>2.15</td>
<td>326B250□□□</td>
</tr>
<tr>
<td>340</td>
<td>59</td>
<td>300</td>
<td>30</td>
<td>107-150-200-250-300</td>
<td>2.25</td>
<td>326B300□□□</td>
</tr>
</tbody>
</table>

□□□ to be filled with Radius R

Separator
- Unassembled Article number S2000F
- Assembled Article number S2000FMC

MCI: chain opening outer radius
MCE: chain opening inner radius

Pin Article number PG307

L=LSA + M or M1 Length of chain (L) = half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>326B075□□□</td>
<td>67</td>
</tr>
<tr>
<td>326B100□□□</td>
<td>92</td>
</tr>
<tr>
<td>326B150□□□</td>
<td>142</td>
</tr>
<tr>
<td>326B200□□□</td>
<td>192</td>
</tr>
<tr>
<td>326B250□□□</td>
<td>242</td>
</tr>
<tr>
<td>326B300□□□</td>
<td>292</td>
</tr>
<tr>
<td>326B□□□□□□</td>
<td>F=A-48</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
- Complete Set Assembled
  - A326KM
- Complete Set Unassembled
  - A326K

□□□ inner width (C)
SILVYN® CHAIN 328SU
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>119</td>
<td>79</td>
<td>61</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.70</td>
<td>328SU06L□□□</td>
</tr>
<tr>
<td>130</td>
<td>79</td>
<td>72</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.73</td>
<td>328SU07L□□□</td>
</tr>
<tr>
<td>144</td>
<td>79</td>
<td>86</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.76</td>
<td>328SU08L□□□</td>
</tr>
<tr>
<td>150</td>
<td>79</td>
<td>92</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.78</td>
<td>328SU09L□□□</td>
</tr>
<tr>
<td>164</td>
<td>79</td>
<td>106</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.82</td>
<td>328SU10L□□□</td>
</tr>
<tr>
<td>169</td>
<td>79</td>
<td>111</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.82</td>
<td>328SU11L□□□</td>
</tr>
<tr>
<td>176</td>
<td>79</td>
<td>118</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.82</td>
<td>328SU11L□□□</td>
</tr>
<tr>
<td>186</td>
<td>79</td>
<td>128</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.86</td>
<td>328SU12L□□□</td>
</tr>
<tr>
<td>194</td>
<td>79</td>
<td>136</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.89</td>
<td>328SU13L□□□</td>
</tr>
<tr>
<td>205</td>
<td>79</td>
<td>147</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.89</td>
<td>328SU14L□□□</td>
</tr>
<tr>
<td>219</td>
<td>79</td>
<td>161</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>2.94</td>
<td>328SU16L□□□</td>
</tr>
<tr>
<td>244</td>
<td>79</td>
<td>186</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.01</td>
<td>328SU18L□□□</td>
</tr>
<tr>
<td>269</td>
<td>79</td>
<td>211</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.06</td>
<td>328SU21L□□□</td>
</tr>
<tr>
<td>280</td>
<td>79</td>
<td>222</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.08</td>
<td>328SU22L□□□</td>
</tr>
<tr>
<td>294</td>
<td>79</td>
<td>236</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.14</td>
<td>328SU23L□□□</td>
</tr>
<tr>
<td>312</td>
<td>79</td>
<td>263</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.20</td>
<td>328SU26L□□□</td>
</tr>
<tr>
<td>330</td>
<td>79</td>
<td>272</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.20</td>
<td>328SU27L□□□</td>
</tr>
<tr>
<td>381</td>
<td>79</td>
<td>323</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.31</td>
<td>328SU32L□□□</td>
</tr>
<tr>
<td>403</td>
<td>79</td>
<td>345</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.36</td>
<td>328SU34L□□□</td>
</tr>
<tr>
<td>431</td>
<td>79</td>
<td>373</td>
<td>57</td>
<td>150-180-200-230-280-400</td>
<td>3.49</td>
<td>328SU37L□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S308C
Assembled Article number S308CMC, S308CMC, S308CMCE
MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm

Unassembled Article number S308SHF
Assembled Article number S308SHMC
Pin Article number PG328TP

L=LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>328SU061</td>
<td>44</td>
</tr>
<tr>
<td>328SU072</td>
<td>55</td>
</tr>
<tr>
<td>328SU086</td>
<td>69</td>
</tr>
<tr>
<td>328SU092</td>
<td>75</td>
</tr>
<tr>
<td>328SU096</td>
<td>79</td>
</tr>
<tr>
<td>328SU106</td>
<td>89</td>
</tr>
<tr>
<td>328SU111</td>
<td>94</td>
</tr>
<tr>
<td>328SU118</td>
<td>101</td>
</tr>
<tr>
<td>328SU128</td>
<td>111</td>
</tr>
<tr>
<td>328SU136</td>
<td>119</td>
</tr>
<tr>
<td>328SU147</td>
<td>130</td>
</tr>
<tr>
<td>328SU161</td>
<td>144</td>
</tr>
<tr>
<td>328SU186</td>
<td>169</td>
</tr>
<tr>
<td>328SU211</td>
<td>194</td>
</tr>
<tr>
<td>328SU222</td>
<td>205</td>
</tr>
<tr>
<td>328SU236</td>
<td>219</td>
</tr>
<tr>
<td>328SU263</td>
<td>246</td>
</tr>
<tr>
<td>328SU272</td>
<td>255</td>
</tr>
<tr>
<td>328SU323</td>
<td>306</td>
</tr>
<tr>
<td>328SU345</td>
<td>328</td>
</tr>
<tr>
<td>328SU373</td>
<td>356</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
Complete Set Assembled
A328KM
Complete Set Unassembled
A328K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 328B
Nylon cable chain with un-screwable aluminium rods.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>162</td>
<td>79</td>
<td>100</td>
<td>48</td>
<td>150-180-200-230-280-400</td>
<td>2.50</td>
<td>328B100□□□</td>
</tr>
<tr>
<td>212</td>
<td>79</td>
<td>150</td>
<td>48</td>
<td>150-180-200-230-280-400</td>
<td>2.60</td>
<td>328B150□□□</td>
</tr>
<tr>
<td>262</td>
<td>79</td>
<td>200</td>
<td>48</td>
<td>150-180-200-230-280-400</td>
<td>2.75</td>
<td>328B200□□□</td>
</tr>
<tr>
<td>312</td>
<td>79</td>
<td>250</td>
<td>48</td>
<td>150-180-200-230-280-400</td>
<td>2.90</td>
<td>328B250□□□</td>
</tr>
<tr>
<td>362</td>
<td>79</td>
<td>300</td>
<td>48</td>
<td>150-180-200-230-280-400</td>
<td>3.00</td>
<td>328B300□□□</td>
</tr>
<tr>
<td>C+62</td>
<td>79</td>
<td>...</td>
<td>48</td>
<td>150-180-200-230-280-400</td>
<td>...</td>
<td>328B□□□□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S3000F
Assembled Article number S3000FMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG328TP

R = LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

Technical data

<table>
<thead>
<tr>
<th>R</th>
<th>H</th>
<th>N1</th>
<th>M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>379</td>
<td>425</td>
<td>955</td>
</tr>
<tr>
<td>180</td>
<td>439</td>
<td>530</td>
<td>1220</td>
</tr>
<tr>
<td>200</td>
<td>479</td>
<td>600</td>
<td>1395</td>
</tr>
<tr>
<td>230</td>
<td>539</td>
<td>700</td>
<td>1655</td>
</tr>
<tr>
<td>280</td>
<td>639</td>
<td>875</td>
<td>2095</td>
</tr>
<tr>
<td>400</td>
<td>879</td>
<td>1285</td>
<td>3145</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for long travel distance

End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>328B100 □□□</td>
<td>93</td>
</tr>
<tr>
<td>328B150 □□□</td>
<td>143</td>
</tr>
<tr>
<td>328B200 □□□</td>
<td>193</td>
</tr>
<tr>
<td>328B250 □□□</td>
<td>243</td>
</tr>
<tr>
<td>328B300 □□□</td>
<td>293</td>
</tr>
<tr>
<td>328B □□□□□</td>
<td>F=A-75</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  - A328KM
- Complete Set Unassembled
  - A328K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 329SU
Nylon Cable Chain with opening frames

Technical data

- Inner Height (D): 75.5 mm
- Pitch (P): 100 mm
- Height Moving Point (W): 300 mm
- Speed: 3 m/s
- Acceleration: 13 m/s²

separator

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>107</td>
<td>64</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.19</td>
<td>329SU06□□□□</td>
</tr>
<tr>
<td>148</td>
<td>107</td>
<td>84</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.25</td>
<td>329SU08□□□□</td>
</tr>
<tr>
<td>173</td>
<td>107</td>
<td>109</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.33</td>
<td>329SU109□□□□</td>
</tr>
<tr>
<td>180</td>
<td>107</td>
<td>116</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.36</td>
<td>329SU116□□□□</td>
</tr>
<tr>
<td>203</td>
<td>107</td>
<td>139</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.43</td>
<td>329SU139□□□□</td>
</tr>
<tr>
<td>243</td>
<td>107</td>
<td>179</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.56</td>
<td>329SU179□□□□</td>
</tr>
<tr>
<td>278</td>
<td>107</td>
<td>214</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.67</td>
<td>329SU214□□□□</td>
</tr>
<tr>
<td>304</td>
<td>107</td>
<td>240</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.76</td>
<td>329SU240□□□□</td>
</tr>
<tr>
<td>328</td>
<td>107</td>
<td>264</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.83</td>
<td>329SU264□□□□</td>
</tr>
<tr>
<td>354</td>
<td>107</td>
<td>290</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.91</td>
<td>329SU290□□□□</td>
</tr>
<tr>
<td>378</td>
<td>107</td>
<td>314</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>4.99</td>
<td>329SU314□□□□</td>
</tr>
<tr>
<td>404</td>
<td>107</td>
<td>340</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>5.06</td>
<td>329SU340□□□□</td>
</tr>
<tr>
<td>428</td>
<td>107</td>
<td>364</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>5.15</td>
<td>329SU364□□□□</td>
</tr>
<tr>
<td>483</td>
<td>107</td>
<td>419</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>5.36</td>
<td>329SU419□□□□</td>
</tr>
<tr>
<td>552</td>
<td>107</td>
<td>488</td>
<td>75.5</td>
<td>150-250-300-350-400-500-600</td>
<td>5.57</td>
<td>329SU488□□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S309S/3178
Assembled Article number S309S/3178MCI, S309S/3178MCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Strong-hold separator for C > 200 mm

Unassembled Article number S309HOFL
Assembled Article number S309HOFLMC
Pin Article number PG329

For current information see: www.lappgroup.com
**End brackets**
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwrap clamps available on request.

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>329SU084</td>
<td>60</td>
<td>71</td>
</tr>
<tr>
<td>329SU109</td>
<td>85</td>
<td>96</td>
</tr>
<tr>
<td>329SU116</td>
<td>92</td>
<td>103</td>
</tr>
<tr>
<td>329SU139</td>
<td>115</td>
<td>126</td>
</tr>
<tr>
<td>329SU179</td>
<td>155</td>
<td>166</td>
</tr>
<tr>
<td>329SU214</td>
<td>190</td>
<td>201</td>
</tr>
<tr>
<td>329SU240</td>
<td>216</td>
<td>227</td>
</tr>
<tr>
<td>329SU264</td>
<td>240</td>
<td>251</td>
</tr>
<tr>
<td>329SU290</td>
<td>266</td>
<td>277</td>
</tr>
<tr>
<td>329SU314</td>
<td>290</td>
<td>301</td>
</tr>
<tr>
<td>329SU340</td>
<td>316</td>
<td>327</td>
</tr>
<tr>
<td>329SU364</td>
<td>340</td>
<td>351</td>
</tr>
<tr>
<td>329SU419</td>
<td>395</td>
<td>406</td>
</tr>
<tr>
<td>329SU488</td>
<td>464</td>
<td>475</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**

- Complete Set Assembled
  - A329SU□□□KM
- Complete Set Unassembled
  - A329SU□□□K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

SILVYN® CHAIN 329CD
Nylon Protection cable chain with openable aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>107</td>
<td>64</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.19</td>
<td>329CD064□□□</td>
</tr>
<tr>
<td>148</td>
<td>107</td>
<td>84</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.25</td>
<td>329CD084□□□</td>
</tr>
<tr>
<td>173</td>
<td>107</td>
<td>109</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.33</td>
<td>329CD109□□□</td>
</tr>
<tr>
<td>180</td>
<td>107</td>
<td>116</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.36</td>
<td>329CD116□□□</td>
</tr>
<tr>
<td>203</td>
<td>107</td>
<td>139</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.43</td>
<td>329CD139□□□</td>
</tr>
<tr>
<td>243</td>
<td>107</td>
<td>179</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.56</td>
<td>329CD179□□□</td>
</tr>
<tr>
<td>278</td>
<td>107</td>
<td>214</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.67</td>
<td>329CD214□□□</td>
</tr>
<tr>
<td>304</td>
<td>107</td>
<td>240</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.76</td>
<td>329CD240□□□</td>
</tr>
<tr>
<td>328</td>
<td>107</td>
<td>264</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.83</td>
<td>329CD264□□□</td>
</tr>
<tr>
<td>364</td>
<td>107</td>
<td>290</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.91</td>
<td>329CD290□□□</td>
</tr>
<tr>
<td>378</td>
<td>107</td>
<td>314</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>4.99</td>
<td>329CD314□□□</td>
</tr>
<tr>
<td>404</td>
<td>107</td>
<td>340</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>5.06</td>
<td>329CD340□□□</td>
</tr>
<tr>
<td>428</td>
<td>107</td>
<td>364</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>5.15</td>
<td>329CD364□□□</td>
</tr>
<tr>
<td>483</td>
<td>107</td>
<td>419</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>5.36</td>
<td>329CU419□□□</td>
</tr>
<tr>
<td>552</td>
<td>107</td>
<td>488</td>
<td>75.5</td>
<td>200-250-300-350-400-500-600</td>
<td>5.57</td>
<td>329CU488□□□</td>
</tr>
</tbody>
</table>

Separator

| Unassembled | Article number S309S/3178 |
| Assembled  | S309S/3178MCI, S309S/3178MCE |

Technical data

- Inner Height (D): 75.5 mm
- Pitch (P): 100 mm
- Height Moving Point (W): 300 mm
- Speed: 3 m/s
- Acceleration: 13 m/s²

L = LSA + M or M1

- LSA: Half travel distance
- M1: Plus length of curve

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiwewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>329CD084</td>
<td>60</td>
<td>71</td>
</tr>
<tr>
<td>329CD109</td>
<td>85</td>
<td>96</td>
</tr>
<tr>
<td>329CD116</td>
<td>92</td>
<td>103</td>
</tr>
<tr>
<td>329CD139</td>
<td>115</td>
<td>126</td>
</tr>
<tr>
<td>329CD179</td>
<td>155</td>
<td>166</td>
</tr>
<tr>
<td>329CD214</td>
<td>190</td>
<td>201</td>
</tr>
<tr>
<td>329CD240</td>
<td>216</td>
<td>227</td>
</tr>
<tr>
<td>329CD264</td>
<td>240</td>
<td>251</td>
</tr>
<tr>
<td>329CD290</td>
<td>266</td>
<td>277</td>
</tr>
<tr>
<td>329CD314</td>
<td>290</td>
<td>301</td>
</tr>
<tr>
<td>329CD340</td>
<td>316</td>
<td>327</td>
</tr>
<tr>
<td>329CD364</td>
<td>340</td>
<td>351</td>
</tr>
<tr>
<td>329CD419</td>
<td>395</td>
<td>406</td>
</tr>
<tr>
<td>329CD488</td>
<td>464</td>
<td>475</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  A329CD□□□KM
- Complete Set Unassembled
  A329CD□□□K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 329B
Nylon cable chain with un-screwable aluminium rods.

Technical data

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>164</td>
<td>107</td>
<td>100</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.25</td>
<td>329B10X□□□</td>
</tr>
<tr>
<td>214</td>
<td>107</td>
<td>150</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.45</td>
<td>329B15X□□□</td>
</tr>
<tr>
<td>264</td>
<td>107</td>
<td>200</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.60</td>
<td>329B20X□□□</td>
</tr>
<tr>
<td>314</td>
<td>107</td>
<td>250</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.75</td>
<td>329B25X□□□</td>
</tr>
<tr>
<td>364</td>
<td>107</td>
<td>300</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>4.90</td>
<td>329B30X□□□</td>
</tr>
<tr>
<td>464</td>
<td>107</td>
<td>400</td>
<td>70</td>
<td>150-200-250-300-350-400-500-600</td>
<td>5.25</td>
<td>329B40X□□□</td>
</tr>
<tr>
<td>464</td>
<td>107</td>
<td>406</td>
<td>90</td>
<td>150-200-250-300-350-400-500-600</td>
<td>5.25</td>
<td>329B406□□□</td>
</tr>
</tbody>
</table>

C+64 107 70 150-200-250-300-350-400-500-600 ... 329B□□□□□□

Separator

Unassembled Article number S309C
Assembled Article number S309CMC
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG329

Length of chain (L)= Half travel distance LSA plus length of curve (M) or (M1)

L=LSA + M or M1

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>329B100</td>
<td>76</td>
<td>87</td>
</tr>
<tr>
<td>329B150</td>
<td>126</td>
<td>137</td>
</tr>
<tr>
<td>329B200</td>
<td>176</td>
<td>187</td>
</tr>
<tr>
<td>329B250</td>
<td>226</td>
<td>237</td>
</tr>
<tr>
<td>329B300</td>
<td>276</td>
<td>287</td>
</tr>
<tr>
<td>329B400</td>
<td>376</td>
<td>387</td>
</tr>
<tr>
<td>329B□□□</td>
<td>F=A-88</td>
<td>F=A-77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A329BKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A329BK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for long travel distance

**SILVYN® CHAIN 478MU**
Nylon Cable Chain with opening frames

**Technical data**

- **Inner Height (D)**: 75.5 mm
- **Pitch (P)**: 105 mm
- **Height Moving Point (W)**: 300 mm
- **Speed**: 3 m/s
- **Acceleration**: 8 m/s²

**Separator**
- Unassembled: Article number S309S/3178
- Assembled: Article number S309S/3178MCI, S309S/3178MCE
  - MCI: chain opening outer radius
  - MCE: chain opening inner radius
- Strong-hold separator for C > 200 mm
  - Unassembled: Article number S309HOFL
  - Assembled: Article number S309HOFLMC
- Pin: Article number PG475

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>110.5</td>
<td>106.5</td>
<td>74</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>3.70</td>
<td>478MU074□□□</td>
</tr>
<tr>
<td>130.5</td>
<td>106.5</td>
<td>94</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>3.80</td>
<td>478MU094□□□</td>
</tr>
<tr>
<td>155.5</td>
<td>106.5</td>
<td>119</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>3.85</td>
<td>478MU119□□□</td>
</tr>
<tr>
<td>162.5</td>
<td>106.5</td>
<td>126</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>3.90</td>
<td>478MU126□□□</td>
</tr>
<tr>
<td>185.5</td>
<td>106.5</td>
<td>149</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>3.95</td>
<td>478MU149□□□</td>
</tr>
<tr>
<td>225.5</td>
<td>106.5</td>
<td>189</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.05</td>
<td>478MU189□□□</td>
</tr>
<tr>
<td>260.5</td>
<td>106.5</td>
<td>224</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.15</td>
<td>478MU224□□□</td>
</tr>
<tr>
<td>286.5</td>
<td>106.5</td>
<td>250</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.25</td>
<td>478MU250□□□</td>
</tr>
<tr>
<td>316.5</td>
<td>106.5</td>
<td>274</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.30</td>
<td>478MU274□□□</td>
</tr>
<tr>
<td>336.5</td>
<td>106.5</td>
<td>300</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.37</td>
<td>478MU300□□□</td>
</tr>
<tr>
<td>360.5</td>
<td>106.5</td>
<td>324</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.45</td>
<td>478MU324□□□</td>
</tr>
<tr>
<td>386.5</td>
<td>106.5</td>
<td>350</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.55</td>
<td>478MU350□□□</td>
</tr>
<tr>
<td>410.5</td>
<td>106.5</td>
<td>374</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.60</td>
<td>478MU374□□□</td>
</tr>
<tr>
<td>445.5</td>
<td>106.5</td>
<td>429</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.80</td>
<td>478MU429□□□</td>
</tr>
<tr>
<td>534.5</td>
<td>106.5</td>
<td>498</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>5.00</td>
<td>478MU498□□□</td>
</tr>
</tbody>
</table>

**L = LSA + M or M1**
- **Length of chain (L)**
- **Half travel distance LSA**
- **Plus length of curve (M) or (M1)**

For current information see: www.lappgroup.com
**End brackets**
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>478MU07G</td>
<td>33.5</td>
</tr>
<tr>
<td>478MU09G</td>
<td>53.5</td>
</tr>
<tr>
<td>478MU11G</td>
<td>78.5</td>
</tr>
<tr>
<td>478MU12G</td>
<td>85.5</td>
</tr>
<tr>
<td>478MU14G</td>
<td>108.5</td>
</tr>
<tr>
<td>478MU144G</td>
<td>148.5</td>
</tr>
<tr>
<td>478MU234G</td>
<td>183.5</td>
</tr>
<tr>
<td>478MU260G</td>
<td>209.5</td>
</tr>
<tr>
<td>478MU274G</td>
<td>233.5</td>
</tr>
<tr>
<td>478MU300G</td>
<td>259.5</td>
</tr>
<tr>
<td>478MU334G</td>
<td>283.5</td>
</tr>
<tr>
<td>478MU350G</td>
<td>309.5</td>
</tr>
<tr>
<td>478MU374G</td>
<td>333.5</td>
</tr>
<tr>
<td>478MU424G</td>
<td>388.5</td>
</tr>
<tr>
<td>478MU494G</td>
<td>457.5</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**
- Complete Set Assembled: A478M□□□KM
- Complete Set Unassembled: A478M□□□K

**Tiewarp Clamp Part Numbers**
- Complete Set Assembled: CFC478M□□□KM
- Complete Set Unassembled: CFC478M□□□K

□□□ Inner width (C)
SILVYN® CHAIN 478PU
Nylon cable chain with openable protection frames.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>112</td>
<td>106.5</td>
<td>74</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.60</td>
<td>478PU274C111111</td>
</tr>
<tr>
<td>132</td>
<td>106.5</td>
<td>94</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>4.80</td>
<td>478PU294C111111</td>
</tr>
<tr>
<td>157</td>
<td>106.5</td>
<td>119</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>5.10</td>
<td>478PU119C111111</td>
</tr>
<tr>
<td>164</td>
<td>106.5</td>
<td>126</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>5.15</td>
<td>478PU126C111111</td>
</tr>
<tr>
<td>187</td>
<td>106.5</td>
<td>149</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>5.40</td>
<td>478PU149C111111</td>
</tr>
<tr>
<td>227</td>
<td>106.5</td>
<td>189</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>5.80</td>
<td>478PU189C111111</td>
</tr>
<tr>
<td>262</td>
<td>106.5</td>
<td>224</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>6.20</td>
<td>478PU224C111111</td>
</tr>
<tr>
<td>288</td>
<td>106.5</td>
<td>250</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>6.50</td>
<td>478PU250C111111</td>
</tr>
<tr>
<td>312</td>
<td>106.5</td>
<td>274</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>6.75</td>
<td>478PU274C111111</td>
</tr>
<tr>
<td>338</td>
<td>106.5</td>
<td>300</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>7.05</td>
<td>478PU300C111111</td>
</tr>
<tr>
<td>362</td>
<td>106.5</td>
<td>324</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>7.30</td>
<td>478PU324C111111</td>
</tr>
<tr>
<td>388</td>
<td>106.5</td>
<td>350</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>7.55</td>
<td>478PU350C111111</td>
</tr>
<tr>
<td>412</td>
<td>106.5</td>
<td>374</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>7.85</td>
<td>478PU374C111111</td>
</tr>
<tr>
<td>437</td>
<td>106.5</td>
<td>429</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>8.50</td>
<td>478PU429C111111</td>
</tr>
<tr>
<td>536</td>
<td>106.5</td>
<td>498</td>
<td>75.5</td>
<td>180-200-250-300-350-400</td>
<td>9.20</td>
<td>478PU498C111111</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S309S/3178
Assembled Article number S309S/3178MCI, S309S/3178MCE
MCI: chain opening outer radius
MCE: chain opening inner radius
Pin Article number PG475

L=LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>478PU074</td>
<td>35</td>
</tr>
<tr>
<td>478PU094</td>
<td>55</td>
</tr>
<tr>
<td>478PU119</td>
<td>80</td>
</tr>
<tr>
<td>478PU126</td>
<td>87</td>
</tr>
<tr>
<td>478PU149</td>
<td>110</td>
</tr>
<tr>
<td>478PU189</td>
<td>150</td>
</tr>
<tr>
<td>478PU224</td>
<td>185</td>
</tr>
<tr>
<td>478PU250</td>
<td>211</td>
</tr>
<tr>
<td>478PU274</td>
<td>235</td>
</tr>
<tr>
<td>478PU300X</td>
<td>261</td>
</tr>
<tr>
<td>478PU324</td>
<td>285</td>
</tr>
<tr>
<td>478PU350</td>
<td>311</td>
</tr>
<tr>
<td>478PU374X</td>
<td>335</td>
</tr>
<tr>
<td>478PU429</td>
<td>390</td>
</tr>
<tr>
<td>478PU498</td>
<td>459</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  - A478P□□□KM

- Complete Set Unassembled
  - A478P□□□K

Tiewarp Clamp Part Numbers

- Complete Set Assembled
  - CFC478M□□□KM

- Complete Set Unassembled
  - CFC478M□□□K

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 60PU
Nylon Cable Chain with opening frames

Technical data

- Inner Height (D)
  - 60.5 mm
- Pitch (P)
  - 90 mm
- Height Moving Point (W)
  - 250 mm
- Speed
  - 5 m/s
- Acceleration
  - 13 m/s²

Separator
Unassembled Article number S60SMF
Assembled Article number S60SMFMC

Strong-hold separator for C > 200 mm
Unassembled Article number S60HOFL
Assembled Article number S60HOFLMC

Pin
Article number PNE60-PNI60

Info
• Integrated sliding shoes

L = LSA + M
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>169</td>
<td>90</td>
<td>115</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.37</td>
<td>60PU115□□□</td>
</tr>
<tr>
<td>189</td>
<td>90</td>
<td>135</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.46</td>
<td>60PU135□□□</td>
</tr>
<tr>
<td>214</td>
<td>90</td>
<td>160</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.52</td>
<td>60PU160□□□</td>
</tr>
<tr>
<td>221</td>
<td>90</td>
<td>167</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.54</td>
<td>60PU167□□□</td>
</tr>
<tr>
<td>244</td>
<td>90</td>
<td>190</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.61</td>
<td>60PU190□□□</td>
</tr>
<tr>
<td>284</td>
<td>90</td>
<td>230</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.77</td>
<td>60PU230□□□</td>
</tr>
<tr>
<td>319</td>
<td>90</td>
<td>265</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.91</td>
<td>60PU265□□□</td>
</tr>
<tr>
<td>345</td>
<td>90</td>
<td>291</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>5.99</td>
<td>60PU291□□□</td>
</tr>
<tr>
<td>369</td>
<td>90</td>
<td>315</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>6.07</td>
<td>60PU315□□□</td>
</tr>
<tr>
<td>395</td>
<td>90</td>
<td>341</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>6.17</td>
<td>60PU341□□□</td>
</tr>
<tr>
<td>419</td>
<td>90</td>
<td>365</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>6.26</td>
<td>60PU365□□□</td>
</tr>
<tr>
<td>445</td>
<td>90</td>
<td>391</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>6.34</td>
<td>60PU391□□□</td>
</tr>
<tr>
<td>469</td>
<td>90</td>
<td>415</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>6.43</td>
<td>60PU415□□□</td>
</tr>
<tr>
<td>524</td>
<td>90</td>
<td>470</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>6.75</td>
<td>60PU470□□□</td>
</tr>
<tr>
<td>593</td>
<td>90</td>
<td>539</td>
<td>60.5</td>
<td>200-250-300-400</td>
<td>7.08</td>
<td>60PU539□□□</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>60PU11S</td>
<td>95</td>
</tr>
<tr>
<td>60PU13S</td>
<td>115</td>
</tr>
<tr>
<td>60PU160</td>
<td>140</td>
</tr>
<tr>
<td>60PU167</td>
<td>147</td>
</tr>
<tr>
<td>60PU190</td>
<td>170</td>
</tr>
<tr>
<td>60PU230</td>
<td>210</td>
</tr>
<tr>
<td>60PU265</td>
<td>245</td>
</tr>
<tr>
<td>60PU291</td>
<td>271</td>
</tr>
<tr>
<td>60PU315</td>
<td>295</td>
</tr>
<tr>
<td>60PU341</td>
<td>321</td>
</tr>
<tr>
<td>60PU365</td>
<td>345</td>
</tr>
<tr>
<td>60PU391</td>
<td>371</td>
</tr>
<tr>
<td>60PU415</td>
<td>395</td>
</tr>
<tr>
<td>60PU470</td>
<td>450</td>
</tr>
<tr>
<td>60PU539</td>
<td>519</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A60PKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A60PK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 60VU
Nylon Cable Chain with opening frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>60.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitch (P)</td>
<td>90 mm</td>
</tr>
<tr>
<td>Height Moving Point (W)</td>
<td>250 mm</td>
</tr>
<tr>
<td>Speed</td>
<td>6 m/s</td>
</tr>
<tr>
<td>Acceleration</td>
<td>13 m/s²</td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S60SMF
Assembled Article number S60SMFMF

Strong-hold separator for C > 200 mm
Unassembled Article number S60HOFL
Assembled Article number S60HOFLMC

Pin Article number PNE60-PNI60
Sliding shoe Article number PAT60

L = LSA + M
Length of chain (L) = Half travel distance LSA plus length of curve (M)

<table>
<thead>
<tr>
<th>R (mm)</th>
<th>H</th>
<th>N1</th>
<th>M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>490</td>
<td>715</td>
<td>1625</td>
</tr>
<tr>
<td>250</td>
<td>590</td>
<td>925</td>
<td>2130</td>
</tr>
<tr>
<td>300</td>
<td>690</td>
<td>1130</td>
<td>2635</td>
</tr>
<tr>
<td>400</td>
<td>890</td>
<td>1550</td>
<td>3645</td>
</tr>
</tbody>
</table>

Info
• Removable sliding shoes
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>60VU115</td>
<td>95</td>
</tr>
<tr>
<td>60VU135</td>
<td>115</td>
</tr>
<tr>
<td>60VU160</td>
<td>140</td>
</tr>
<tr>
<td>60VU167</td>
<td>147</td>
</tr>
<tr>
<td>60VU190</td>
<td>170</td>
</tr>
<tr>
<td>60VU230</td>
<td>210</td>
</tr>
<tr>
<td>60VU265</td>
<td>245</td>
</tr>
<tr>
<td>60VU291</td>
<td>271</td>
</tr>
<tr>
<td>60VU315</td>
<td>295</td>
</tr>
<tr>
<td>60VU341</td>
<td>321</td>
</tr>
<tr>
<td>60VU365</td>
<td>345</td>
</tr>
<tr>
<td>60VU391</td>
<td>371</td>
</tr>
<tr>
<td>60VU415</td>
<td>395</td>
</tr>
<tr>
<td>60VU470</td>
<td>450</td>
</tr>
<tr>
<td>60VU539</td>
<td>519</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  - A60PKM
- Complete Set Unassembled
  - A60PK

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for long travel distance

SILVYN® CHAIN 80PU
Nylon Cable Chain with opening frames

![Diagram of SILVYN® CHAIN 80PU](image)

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>117</td>
<td>115</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>8.60</td>
<td>80PU115C1 □□□</td>
</tr>
<tr>
<td>215</td>
<td>117</td>
<td>135</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>8.67</td>
<td>80PU135C1 □□□</td>
</tr>
<tr>
<td>240</td>
<td>117</td>
<td>160</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>8.73</td>
<td>80PU160C1 □□□</td>
</tr>
<tr>
<td>247</td>
<td>117</td>
<td>167</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>8.75</td>
<td>80PU167C1 □□□</td>
</tr>
<tr>
<td>270</td>
<td>117</td>
<td>190</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>8.80</td>
<td>80PU190C1 □□□</td>
</tr>
<tr>
<td>310</td>
<td>117</td>
<td>230</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>8.93</td>
<td>80PU230C1 □□□</td>
</tr>
<tr>
<td>345</td>
<td>117</td>
<td>265</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.05</td>
<td>80PU265C1 □□□</td>
</tr>
<tr>
<td>371</td>
<td>117</td>
<td>291</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.11</td>
<td>80PU291C1 □□□</td>
</tr>
<tr>
<td>395</td>
<td>117</td>
<td>315</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.17</td>
<td>80PU315C1 □□□</td>
</tr>
<tr>
<td>421</td>
<td>117</td>
<td>341</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.25</td>
<td>80PU341C1 □□□</td>
</tr>
<tr>
<td>445</td>
<td>117</td>
<td>365</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.33</td>
<td>80PU365C1 □□□</td>
</tr>
<tr>
<td>471</td>
<td>117</td>
<td>391</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.40</td>
<td>80PU391C1 □□□</td>
</tr>
<tr>
<td>495</td>
<td>117</td>
<td>415</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.47</td>
<td>80PU415C1 □□□</td>
</tr>
<tr>
<td>520</td>
<td>117</td>
<td>440</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.55</td>
<td>80PU440C1 □□□</td>
</tr>
<tr>
<td>550</td>
<td>117</td>
<td>470</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>9.75</td>
<td>80PU470C1 □□□</td>
</tr>
<tr>
<td>599</td>
<td>117</td>
<td>539</td>
<td>80.5</td>
<td>200-250-300-400-500-700</td>
<td>10.0</td>
<td>80PU539C1 □□□</td>
</tr>
</tbody>
</table>

LSA + M or M1
Length of chain (L) =
Half travel distance LSA
plus length of curve (M)
or (M1)

Info

- Removable sliding shoes

Separator
Unassembled
Assembled

MCI: chain opening outer radius
MCE: chain opening inner radius

Strong-hold separator for C > 200 mm
Unassembled
Assembled

Pin
Sliding shoe

To be filled with Radius R

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>80PU115</td>
<td>92</td>
</tr>
<tr>
<td>80PU135</td>
<td>112</td>
</tr>
<tr>
<td>80PU160</td>
<td>137</td>
</tr>
<tr>
<td>80PU167</td>
<td>144</td>
</tr>
<tr>
<td>80PU190</td>
<td>167</td>
</tr>
<tr>
<td>80PU230</td>
<td>207</td>
</tr>
<tr>
<td>80PU265</td>
<td>242</td>
</tr>
<tr>
<td>80PU291</td>
<td>268</td>
</tr>
<tr>
<td>80PU315</td>
<td>292</td>
</tr>
<tr>
<td>80PU341</td>
<td>318</td>
</tr>
<tr>
<td>80PU365</td>
<td>342</td>
</tr>
<tr>
<td>80PU391</td>
<td>368</td>
</tr>
<tr>
<td>80PU415</td>
<td>392</td>
</tr>
<tr>
<td>80PU470</td>
<td>447</td>
</tr>
<tr>
<td>80PU539</td>
<td>516</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

<table>
<thead>
<tr>
<th>Complete Set Assembled</th>
<th>Complete Set Unassembled</th>
</tr>
</thead>
<tbody>
<tr>
<td>A80PKM</td>
<td>A80PK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Guide Channel for

326 - 328 - 60

Special channel guide allows the use of the chain for long travel distance. Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

![Diagram of single chain application]

Double Chain Application

![Diagram of double chain application]

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws

Protective cable conduit systems and cable carrier systems
Cable chain carriers • Nylon cable chain for long travel distance

For current information see: www.lappgroup.com
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Steel Sliding Plate
Section B-B

Guide with Plastic Sliding Plate
Section B-B

Part Number
CS...
How to order
Chain part number 326B100150
Guide channel part number CS326B100

Part Number
CR...
How to order
Chain part number 326B100150
Guide channel part number CR326B100

Part Number
CA...
How to order
Chain part number 326B100150
Guide channel part number CA326B100

Part Number
CP...
How to order
Chain part number 326B100150
Guide channel part number CP326B100

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>326</td>
<td>59</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
<tr>
<td>328</td>
<td>79</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
<tr>
<td>60</td>
<td>96</td>
<td>190</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
</tbody>
</table>
Aluminium Guide Channel for 326 - 328 - 60

Special channel guide allows the use of the chain for long travel distance. Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Double Chain Application

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Plastic Sliding Plate
Section B-B

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>326</td>
<td>59</td>
<td>145</td>
<td>A+4</td>
<td>A+114</td>
<td>1,5</td>
</tr>
<tr>
<td>328</td>
<td>79</td>
<td>200</td>
<td>A+4</td>
<td>A+114</td>
<td>1,5</td>
</tr>
<tr>
<td>60</td>
<td>96</td>
<td>200</td>
<td>A+4</td>
<td>A+114</td>
<td>1,5</td>
</tr>
</tbody>
</table>

Part Number
CSA...
How to order
Chain part number 326B100150
Guide channel part number CSA326B100

Part Number
CRA...
How to order
Chain part number 326B100150
Guide channel part number CRA326B100

Part Number
CPA...
How to order
Chain part number 60PU391250
Guide channel part number CPA60-391

For current information see: www.lappgroup.com
Guide Channel for

329 - 478 - 80

Special channel guide allows the use of the chain for long travel distance.
Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Double Chain Application

Channel guide is available in kit form composed of:
side walls 2 m standard length
joining plates
fixing screws
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Steel Sliding Plate
Section B-B

Guide with Plastic Sliding Plate
Section B-B

### Part Number

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>329</td>
<td>107</td>
<td>250</td>
<td>A+8</td>
<td>A+91</td>
<td>1,5</td>
</tr>
<tr>
<td>478</td>
<td>107</td>
<td>250</td>
<td>A+8</td>
<td>A+91</td>
<td>1,5</td>
</tr>
<tr>
<td>80PU</td>
<td>117</td>
<td>250</td>
<td>A+8</td>
<td>A+92</td>
<td>2</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
Separation System

The Separation System guarantees the perfect disposal of cables inside the chain and allows an easy opening of the frame also when the chain is already harnessed. A wide range of horizontal separators is available in order to obtain many different arrangements.

### 445MU/PU/AU

Up to 4 horizontal separations.

### 660A - 306SU/CU - 326SU

Up to 2 horizontal separations.

### 307SU


### 770A

Up to 4 horizontal separations.

### 308SU/CU - 328SU

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Dimensions</th>
</tr>
</thead>
</table>
Steel cable chains for multiple applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 20LT</td>
<td>208</td>
</tr>
<tr>
<td>SILVYN® CHAIN 20LC</td>
<td>210</td>
</tr>
<tr>
<td>SILVYN® CHAIN 30LT</td>
<td>212</td>
</tr>
<tr>
<td>SILVYN® CHAIN 30LC</td>
<td>214</td>
</tr>
<tr>
<td>SILVYN® CHAIN 35LT</td>
<td>216</td>
</tr>
<tr>
<td>SILVYN® CHAIN 35LC</td>
<td>218</td>
</tr>
<tr>
<td>SILVYN® CHAIN 40LT</td>
<td>220</td>
</tr>
<tr>
<td>SILVYN® CHAIN 40LC</td>
<td>222</td>
</tr>
<tr>
<td>SILVYN® CHAIN 42LT</td>
<td>224</td>
</tr>
<tr>
<td>SILVYN® CHAIN 45T</td>
<td>226</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable Strain Relief Systems</td>
<td>266</td>
</tr>
</tbody>
</table>
**SILVYN® CHAIN 20LT**

Steel cable chain with aluminium frame.

### Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 mm</td>
<td>75 mm</td>
<td>0.5 m/s</td>
<td>2 m/s²</td>
</tr>
</tbody>
</table>

### Separator

Unassembled Article number S20LT
Assembled Article number S20LTLMC

### Table: Technical Data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>53</td>
<td>79</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>4.41</td>
<td>20LT079□□□</td>
</tr>
<tr>
<td>136</td>
<td>53</td>
<td>104</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>4.56</td>
<td>20LT104□□□</td>
</tr>
<tr>
<td>186</td>
<td>53</td>
<td>154</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>4.86</td>
<td>20LT154□□□</td>
</tr>
<tr>
<td>236</td>
<td>53</td>
<td>204</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>5.16</td>
<td>20LT204□□□</td>
</tr>
<tr>
<td>286</td>
<td>53</td>
<td>254</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>5.45</td>
<td>20LT254□□□</td>
</tr>
<tr>
<td>336</td>
<td>53</td>
<td>304</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>5.75</td>
<td>20LT304□□□</td>
</tr>
<tr>
<td>4+32</td>
<td>53</td>
<td>32</td>
<td>075-115-150-205-250-305</td>
<td>...</td>
<td>20LT□□□□□</td>
<td></td>
</tr>
</tbody>
</table>

□□□□ to be filled with Radius R

### L=LSA + M or M1

Length of chain (L)= Half travel distance LSA plus length of curve (M) or (M1)

### Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1mm</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>20LT079□□□</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>20LT104□□□</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>20LT154□□□</td>
<td>136</td>
<td>142</td>
</tr>
<tr>
<td>20LT204□□□</td>
<td>186</td>
<td>192</td>
</tr>
<tr>
<td>20LT254□□□</td>
<td>236</td>
<td>242</td>
</tr>
<tr>
<td>20LT304□□□</td>
<td>286</td>
<td>292</td>
</tr>
<tr>
<td>20LT□□□□□□ F=A-50</td>
<td>F=A-44</td>
<td></td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
- Complete Set Assembled
  - A20LKM□
- Complete Set Unassembled
  - A20LK□

□□□ Inner width (C)
☐ Possible mounting positions: 1/2/3 (acc. to page 33)
Protective cable conduit systems and cable carrier systems

SILVYN® CHAIN 20LC
Steel cable chain with aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>53</td>
<td>79</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>5.73</td>
<td>20LC079□□□</td>
</tr>
<tr>
<td>136</td>
<td>53</td>
<td>104</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>6.21</td>
<td>20LC104□□□</td>
</tr>
<tr>
<td>186</td>
<td>53</td>
<td>154</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>7.18</td>
<td>20LC154□□□</td>
</tr>
<tr>
<td>236</td>
<td>53</td>
<td>204</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>8.15</td>
<td>20LC204□□□</td>
</tr>
<tr>
<td>286</td>
<td>53</td>
<td>254</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>9.12</td>
<td>20LC254□□□</td>
</tr>
<tr>
<td>336</td>
<td>53</td>
<td>304</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>10.09</td>
<td>20LC304□□□</td>
</tr>
<tr>
<td>C+32</td>
<td>53</td>
<td>...</td>
<td>32</td>
<td>115-150-205-250-305</td>
<td>...</td>
<td>20LC□□□□□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S20LTF
Assembled Article number S20LTFMC

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1mm</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>20LC079...</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>20LC104...</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>20LC154...</td>
<td>136</td>
<td>142</td>
</tr>
<tr>
<td>20LC204...</td>
<td>186</td>
<td>192</td>
</tr>
<tr>
<td>20LC254...</td>
<td>236</td>
<td>242</td>
</tr>
<tr>
<td>20LC304...</td>
<td>286</td>
<td>292</td>
</tr>
<tr>
<td>20LC...</td>
<td>F=A-50</td>
<td>F=A-44</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  - A20LCKM□
- Complete Set Unassembled
  - A20LCK□

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
**SILVYN® CHAIN 30LT**

Steel cable chain with aluminium frame.

### Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>74</td>
<td>106</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>6.20</td>
<td>30LT106□□□</td>
</tr>
<tr>
<td>190</td>
<td>74</td>
<td>156</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>6.44</td>
<td>30LT156□□□</td>
</tr>
<tr>
<td>240</td>
<td>74</td>
<td>206</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>6.68</td>
<td>30LT206□□□</td>
</tr>
<tr>
<td>290</td>
<td>74</td>
<td>256</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>6.92</td>
<td>30LT256□□□</td>
</tr>
<tr>
<td>340</td>
<td>74</td>
<td>306</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>7.16</td>
<td>30LT306□□□</td>
</tr>
<tr>
<td>390</td>
<td>74</td>
<td>356</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>7.40</td>
<td>30LT356□□□</td>
</tr>
<tr>
<td>440</td>
<td>74</td>
<td>406</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>7.65</td>
<td>30LT406□□□</td>
</tr>
<tr>
<td>490</td>
<td>74</td>
<td>456</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>7.89</td>
<td>30LT456□□□</td>
</tr>
<tr>
<td>540</td>
<td>74</td>
<td>506</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>8.13</td>
<td>30LT506□□□</td>
</tr>
<tr>
<td>C+34</td>
<td>74</td>
<td>...</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>...</td>
<td>30LT□□□□□</td>
</tr>
</tbody>
</table>

To be filled with Radius R

### Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>30LT106</td>
<td>77</td>
<td>83</td>
</tr>
<tr>
<td>30LT156</td>
<td>127</td>
<td>133</td>
</tr>
<tr>
<td>30LT206</td>
<td>177</td>
<td>183</td>
</tr>
<tr>
<td>30LT256</td>
<td>227</td>
<td>233</td>
</tr>
<tr>
<td>30LT306</td>
<td>277</td>
<td>283</td>
</tr>
<tr>
<td>30LT356</td>
<td>327</td>
<td>333</td>
</tr>
<tr>
<td>30LT406</td>
<td>377</td>
<td>383</td>
</tr>
<tr>
<td>30LT456</td>
<td>427</td>
<td>433</td>
</tr>
<tr>
<td>30LT506</td>
<td>477</td>
<td>483</td>
</tr>
<tr>
<td>30LT556</td>
<td>F=A-63</td>
<td>F=A-57</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

| Complete Set Assembled          | A30LKM□ |
| Complete Set Unassembled        | A30LK□  |

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 30LC
Steel cable chain with aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>74</td>
<td>106</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>7.96</td>
<td>30LC106□□□</td>
</tr>
<tr>
<td>190</td>
<td>74</td>
<td>156</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>8.87</td>
<td>30LC156□□□</td>
</tr>
<tr>
<td>240</td>
<td>74</td>
<td>206</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>9.79</td>
<td>30LC206□□□</td>
</tr>
<tr>
<td>290</td>
<td>74</td>
<td>256</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>10.70</td>
<td>30LC256□□□</td>
</tr>
<tr>
<td>340</td>
<td>74</td>
<td>306</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>11.61</td>
<td>30LC306□□□</td>
</tr>
<tr>
<td>390</td>
<td>74</td>
<td>356</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>12.53</td>
<td>30LC356□□□</td>
</tr>
<tr>
<td>440</td>
<td>74</td>
<td>406</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>13.44</td>
<td>30LC406□□□</td>
</tr>
<tr>
<td>490</td>
<td>74</td>
<td>456</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>14.36</td>
<td>30LC456□□□</td>
</tr>
<tr>
<td>540</td>
<td>74</td>
<td>506</td>
<td>52</td>
<td>150-220-250-305-400-535</td>
<td>15.27</td>
<td>30LC506□□□</td>
</tr>
</tbody>
</table>

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).


End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>30LC106</td>
<td>77</td>
<td>83</td>
</tr>
<tr>
<td>30LC156</td>
<td>127</td>
<td>133</td>
</tr>
<tr>
<td>30LC206</td>
<td>177</td>
<td>183</td>
</tr>
<tr>
<td>30LC256</td>
<td>227</td>
<td>233</td>
</tr>
<tr>
<td>30LC306</td>
<td>277</td>
<td>283</td>
</tr>
<tr>
<td>30LC356</td>
<td>327</td>
<td>333</td>
</tr>
<tr>
<td>30LC406</td>
<td>377</td>
<td>383</td>
</tr>
<tr>
<td>30LC456</td>
<td>427</td>
<td>433</td>
</tr>
<tr>
<td>30LC506</td>
<td>477</td>
<td>483</td>
</tr>
<tr>
<td>30LC556</td>
<td>F=A-63</td>
<td>F=A-57</td>
</tr>
</tbody>
</table>

*Steel Type Part Numbers*

- Complete Set Assembled
  - A30LCKM
- Complete Set Unassembled
  - A30LCK

□□□Inner width (C)
☐Possible mounting positions: 1/2/3 (acc. to page 33)
PROTECTIVE CABLE CONDUIT SYSTEMS AND CABLE CARRIER SYSTEMS

SILVYN® CHAIN 35LT
Steel cable chain with aluminium frame.

Technical data

- Inner Height (D) 65 mm
- Pitch (P) 125 mm
- Speed 0.5 m/s
- Acceleration 2 m/s²

<table>
<thead>
<tr>
<th>Article number ST3500F</th>
<th>ST3500FMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>L=LSA + M or M1</td>
<td></td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number ST3500F
Assembled Article number ST3500FMC

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>35LT04□□□</td>
<td>77.5</td>
<td>85.5</td>
</tr>
<tr>
<td>35LT154□□□</td>
<td>127.5</td>
<td>135.5</td>
</tr>
<tr>
<td>35LT204□□□</td>
<td>177.5</td>
<td>185.5</td>
</tr>
<tr>
<td>35LT254□□□</td>
<td>227.5</td>
<td>235.5</td>
</tr>
<tr>
<td>35LT304□□□</td>
<td>277.5</td>
<td>285.5</td>
</tr>
<tr>
<td>35LT354□□□</td>
<td>327.5</td>
<td>335.5</td>
</tr>
<tr>
<td>35LT404□□□</td>
<td>377.5</td>
<td>385.5</td>
</tr>
<tr>
<td>35LT454□□□</td>
<td>427.5</td>
<td>435.5</td>
</tr>
<tr>
<td>35LT504□□□</td>
<td>477.5</td>
<td>485.5</td>
</tr>
<tr>
<td>35LT□□□□□□</td>
<td>F=A-70,5</td>
<td>F=A-62,5</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
- Complete Set Assembled
  - A35LKM□
- Complete Set Unassembled
  - A35LK□

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 35LC

Steel cable chain with aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>148</td>
<td>95</td>
<td>104</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>12.20</td>
<td>35LC104□□□□</td>
</tr>
<tr>
<td>198</td>
<td>95</td>
<td>154</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>13.23</td>
<td>35LC154□□□□</td>
</tr>
<tr>
<td>248</td>
<td>95</td>
<td>204</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>14.26</td>
<td>35LC204□□□□</td>
</tr>
<tr>
<td>298</td>
<td>95</td>
<td>254</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>15.29</td>
<td>35LC254□□□□</td>
</tr>
<tr>
<td>348</td>
<td>95</td>
<td>304</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>16.32</td>
<td>35LC304□□□□</td>
</tr>
<tr>
<td>398</td>
<td>95</td>
<td>354</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>17.35</td>
<td>35LC354□□□□</td>
</tr>
<tr>
<td>448</td>
<td>95</td>
<td>404</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>18.37</td>
<td>35LC404□□□□</td>
</tr>
<tr>
<td>498</td>
<td>95</td>
<td>454</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>19.40</td>
<td>35LC454□□□□</td>
</tr>
<tr>
<td>548</td>
<td>95</td>
<td>504</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>20.43</td>
<td>35LC504□□□□</td>
</tr>
<tr>
<td>598</td>
<td>95</td>
<td>554</td>
<td>65</td>
<td>200-250-300-350-400-450-500-600</td>
<td>21.46</td>
<td>35LC554□□□□</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number ST3500F
Assembled Article number ST3500FMC

L=LSA + M or M1

Length of chain (L)= Half travel distance LSA plus length of curve (M) or (M1)

Self-Supporting Capacity Diagram

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>35LC104</td>
<td>77.5</td>
<td>85.5</td>
</tr>
<tr>
<td>35LC154</td>
<td>127.5</td>
<td>135.5</td>
</tr>
<tr>
<td>35LC204</td>
<td>177.5</td>
<td>185.5</td>
</tr>
<tr>
<td>35LC254</td>
<td>227.5</td>
<td>235.5</td>
</tr>
<tr>
<td>35LC304</td>
<td>277.5</td>
<td>285.5</td>
</tr>
<tr>
<td>35LC354</td>
<td>327.5</td>
<td>335.5</td>
</tr>
<tr>
<td>35LC404</td>
<td>377.5</td>
<td>385.5</td>
</tr>
<tr>
<td>35LC454</td>
<td>427.5</td>
<td>435.5</td>
</tr>
<tr>
<td>35LC504</td>
<td>477.5</td>
<td>485.5</td>
</tr>
<tr>
<td>35LC□□□□□□</td>
<td>F=A-70,5</td>
<td>F=A-62,5</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

| Complete Set Assembled | A35LCKM□ |
| Complete Set Unassembled | A35LCK□ |

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
**SILVYN® CHAIN 40LT**

Steel cable chain with aluminium frame.

### Technical data

- **Inner Height (D)**: 112.5 mm
- **Pitch (P)**: 180 mm
- **Speed**: 0.5 m/s
- **Acceleration**: 2 m/s²

<table>
<thead>
<tr>
<th>Article number</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>145</td>
<td>150</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>20.30</td>
<td>40LT150□□□□</td>
<td></td>
</tr>
<tr>
<td>258</td>
<td>145</td>
<td>200</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>19.76</td>
<td>40LT200□□□□</td>
<td></td>
</tr>
<tr>
<td>308</td>
<td>145</td>
<td>250</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>20.22</td>
<td>40LT250□□□□</td>
<td></td>
</tr>
<tr>
<td>358</td>
<td>145</td>
<td>300</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>20.00</td>
<td>40LT300□□□□</td>
<td></td>
</tr>
<tr>
<td>458</td>
<td>145</td>
<td>400</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>21.00</td>
<td>40LT400□□□□</td>
<td></td>
</tr>
<tr>
<td>558</td>
<td>145</td>
<td>500</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>22.00</td>
<td>40LT500□□□□</td>
<td></td>
</tr>
<tr>
<td>C+58</td>
<td>145</td>
<td>600</td>
<td>112.5</td>
<td>250-300-350-400-450-500-550-600-700-750-800</td>
<td>...</td>
<td>40LT□□□□□□□□</td>
<td></td>
</tr>
</tbody>
</table>

**Separator**

- Unassembled Article number S310TCF9
- Assembled Article number S310TCF9MC

---

**Self-Supporting Capacity Diagram**

The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>40LT150</td>
<td>135</td>
<td>144</td>
</tr>
<tr>
<td>40LT200</td>
<td>185</td>
<td>194</td>
</tr>
<tr>
<td>40LT250</td>
<td>255</td>
<td>244</td>
</tr>
<tr>
<td>40LT300</td>
<td>285</td>
<td>294</td>
</tr>
<tr>
<td>40LT400</td>
<td>385</td>
<td>394</td>
</tr>
<tr>
<td>40LT500</td>
<td>485</td>
<td>494</td>
</tr>
<tr>
<td>F=A-73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F=A-64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  - A40LKM□
- Complete Set Unassembled
  - A40LK□

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 40LC
Steel cable chain with aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>145</td>
<td>150</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>22.00</td>
<td>40LC150□□□</td>
</tr>
<tr>
<td>258</td>
<td>145</td>
<td>200</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>23.00</td>
<td>40LC200□□□</td>
</tr>
<tr>
<td>308</td>
<td>145</td>
<td>250</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>25.00</td>
<td>40LC250□□□</td>
</tr>
<tr>
<td>358</td>
<td>145</td>
<td>300</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>26.00</td>
<td>40LC300□□□</td>
</tr>
<tr>
<td>458</td>
<td>145</td>
<td>400</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>29.00</td>
<td>40LC400□□□</td>
</tr>
<tr>
<td>558</td>
<td>145</td>
<td>500</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>31.00</td>
<td>40LC500□□□</td>
</tr>
<tr>
<td>C+58</td>
<td>145</td>
<td>500</td>
<td>104.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>...</td>
<td>40LC□□□□□□</td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S310TCF9
Assembled Article number S310TCF9MC

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>40LC150</td>
<td>135</td>
<td>144</td>
</tr>
<tr>
<td>40LC200</td>
<td>185</td>
<td>194</td>
</tr>
<tr>
<td>40LC250</td>
<td>235</td>
<td>244</td>
</tr>
<tr>
<td>40LC300</td>
<td>285</td>
<td>294</td>
</tr>
<tr>
<td>40LC400</td>
<td>385</td>
<td>394</td>
</tr>
<tr>
<td>40LC500</td>
<td>485</td>
<td>494</td>
</tr>
<tr>
<td>40LC□□□</td>
<td>F=A-73</td>
<td>F=A-64</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

- Complete Set Assembled
  - A40LCKM□
- Complete Set Unassembled
  - A40LC□□

□ □ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
**SILVYN® CHAIN 42LT**
Steel cable chain with aluminium frame.

### Technical Data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>175</td>
<td>150</td>
<td>138</td>
<td>250-350-400-450-500-550-600-700-750-850</td>
<td>19.30</td>
<td>42LT150□□□</td>
</tr>
<tr>
<td>258</td>
<td>175</td>
<td>200</td>
<td>138</td>
<td>250-350-400-450-500-550-600-700-750-850</td>
<td>19.76</td>
<td>42LT200□□□</td>
</tr>
<tr>
<td>358</td>
<td>175</td>
<td>300</td>
<td>138</td>
<td>250-350-400-450-500-550-600-700-750-850</td>
<td>20.68</td>
<td>42LT300□□□</td>
</tr>
<tr>
<td>458</td>
<td>175</td>
<td>400</td>
<td>138</td>
<td>250-350-400-450-500-550-600-700-750-850</td>
<td>21.61</td>
<td>42LT400□□□</td>
</tr>
<tr>
<td>558</td>
<td>175</td>
<td>500</td>
<td>138</td>
<td>250-350-400-450-500-550-600-700-750-850</td>
<td>22.53</td>
<td>42LT500□□□</td>
</tr>
<tr>
<td>C+58</td>
<td>175</td>
<td>650</td>
<td>138</td>
<td>250-350-400-450-500-550-600-700-750-850</td>
<td>...</td>
<td>42LT□□□□□□</td>
</tr>
</tbody>
</table>

The separator is to be filled with radius R.

### Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

The orange marking/area in the diagram considers the difference of weight between various widths of chain.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>42LT150</td>
<td>135</td>
<td>144</td>
</tr>
<tr>
<td>42LT200</td>
<td>185</td>
<td>194</td>
</tr>
<tr>
<td>42LT250</td>
<td>235</td>
<td>244</td>
</tr>
<tr>
<td>42LT300</td>
<td>285</td>
<td>294</td>
</tr>
<tr>
<td>42LT400</td>
<td>385</td>
<td>394</td>
</tr>
<tr>
<td>42LT500</td>
<td>485</td>
<td>494</td>
</tr>
<tr>
<td>F=A-73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F=A-64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Possible mounting positions: 1/2/3 (acc. to page 33)
SILVYN® CHAIN 45T
Steel cable chain with aluminium frame.

Technical data

- Inner Height (D): 182 mm
- Pitch (P): 250 mm
- Speed: 0.5 m/s
- Acceleration: 2 m/s²

Separator
Unassembled Article number ST4500F1C
Assembled Article number ST4500F1CMC

Self-Supporting Capacity Diagram
The maximum length of the self-supporting capacity LSA in relationship to the weight of the cables and hoses contained per metre.

For applications with LSA and weights not included in the area of the diagram showing a self-supporting capacity, verify the possible use of support rollers (see page 41).
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>45T300□□□</td>
<td>285</td>
</tr>
<tr>
<td>45T350□□□</td>
<td>335</td>
</tr>
<tr>
<td>45T400□□□</td>
<td>385</td>
</tr>
<tr>
<td>45T450□□□</td>
<td>435</td>
</tr>
<tr>
<td>45T500□□□</td>
<td>485</td>
</tr>
<tr>
<td>45T600□□□</td>
<td>585</td>
</tr>
<tr>
<td>45T□□□□□</td>
<td>F=A-105</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

| Complete Set Assembled | A4500KM□ |
| Complete Set Unassembled | A4500K□ |

□□□ Inner width (C)
□ Possible mounting positions: 1/2/3 (acc. to page 33)
Steel cable chains for sliding applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 20LPT</td>
<td>230</td>
</tr>
<tr>
<td>SILVYN® CHAIN 20LPC</td>
<td>232</td>
</tr>
<tr>
<td>SILVYN® CHAIN 30LPT</td>
<td>234</td>
</tr>
<tr>
<td>SILVYN® CHAIN 30LPC</td>
<td>236</td>
</tr>
<tr>
<td>SILVYN® CHAIN 35LPT</td>
<td>238</td>
</tr>
<tr>
<td>SILVYN® CHAIN 35LPC</td>
<td>240</td>
</tr>
<tr>
<td>SILVYN® CHAIN 40LPT</td>
<td>242</td>
</tr>
<tr>
<td>SILVYN® CHAIN 40LPC</td>
<td>244</td>
</tr>
<tr>
<td>SILVYN® CHAIN 42LPT</td>
<td>246</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guide Channel</td>
<td>248</td>
</tr>
<tr>
<td>Cable Strain Relief Systems</td>
<td>266</td>
</tr>
</tbody>
</table>
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel cable chain for long travel distance

SILVYN® CHAIN 20LPT
Steel cable chain with aluminium frame.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>58.5</td>
<td>79</td>
<td>32</td>
<td>15-150-205-250-305</td>
<td>4.82</td>
<td>20LPT079□□□</td>
</tr>
<tr>
<td>146</td>
<td>58.5</td>
<td>104</td>
<td>32</td>
<td>15-150-205-250-305</td>
<td>4.97</td>
<td>20LPT104□□□</td>
</tr>
<tr>
<td>196</td>
<td>58.5</td>
<td>154</td>
<td>32</td>
<td>15-150-205-250-305</td>
<td>5.27</td>
<td>20LPT154□□□</td>
</tr>
<tr>
<td>246</td>
<td>58.5</td>
<td>204</td>
<td>32</td>
<td>15-150-205-250-305</td>
<td>5.57</td>
<td>20LPT204□□□</td>
</tr>
<tr>
<td>296</td>
<td>58.5</td>
<td>254</td>
<td>32</td>
<td>15-150-205-250-305</td>
<td>5.87</td>
<td>20LPT254□□□</td>
</tr>
<tr>
<td>346</td>
<td>58.5</td>
<td>304</td>
<td>32</td>
<td>15-150-205-250-305</td>
<td>6.17</td>
<td>20LPT304□□□</td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S20LTF
Assembled Article number S20LTFMC

MCI: chain opening outer radius
MCE: chain opening inner radius

L=LSA + M or M1
Length of chain (L)=
Half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>20LPT07□□□</td>
<td>67</td>
</tr>
<tr>
<td>20LPT10□□□</td>
<td>92</td>
</tr>
<tr>
<td>20LPT15□□□</td>
<td>142</td>
</tr>
<tr>
<td>20LPT20□□□</td>
<td>192</td>
</tr>
<tr>
<td>20LPT25□□□</td>
<td>242</td>
</tr>
<tr>
<td>20LPT30□□□</td>
<td>292</td>
</tr>
<tr>
<td>20LPT□□□□□</td>
<td>A-54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A2OLPKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A2OLPK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Steel cable chain for long travel distance

SILVYN® CHAIN 20LPC
Steel cable chain with aluminium covers.

Technical data

- Inner Height (D): 31 mm
- Pitch (P): 75 mm
- Height Moving Point (W): 230 mm
- Speed: 2 m/s
- Acceleration: 2 m/s²

Separator
- Unassembled: Article number S20LTF
- Assembled: Article number S20LTFMC

Technical data

- A (mm) | B (mm) | C (mm) | D (mm) | R (mm) | Weight (kg/m) | Article number
- 121 | 58.5 | 79 | 31 | 15-150-205-250-305 | 6.59 | 20LPC079□□□
- 146 | 58.5 | 104 | 31 | 15-150-205-250-305 | 7.08 | 20LPC104□□□
- 196 | 58.5 | 154 | 31 | 15-150-205-250-305 | 8.05 | 20LPC154□□□
- 246 | 58.5 | 204 | 31 | 15-150-205-250-305 | 9.02 | 20LPC204□□□
- 296 | 58.5 | 254 | 31 | 15-150-205-250-305 | 9.99 | 20LPC254□□□
- 346 | 58.5 | 304 | 31 | 15-150-205-250-305 | 10.96 | 20LPC304□□□

L=LSA + M or M1
Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>20LP 07 □□□</td>
<td>67</td>
</tr>
<tr>
<td>20LP 10 □□□</td>
<td>92</td>
</tr>
<tr>
<td>20LP 15 □□□</td>
<td>142</td>
</tr>
<tr>
<td>20LP 20 □□□</td>
<td>192</td>
</tr>
<tr>
<td>20LP 25 □□□</td>
<td>242</td>
</tr>
<tr>
<td>20LP 30 □□□</td>
<td>292</td>
</tr>
<tr>
<td>20LP □□□□□□ A-54</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A20LPCKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A20LPCK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel chain for long travel distance

SILVYN® CHAIN 30LPT
Steel cable chain with aluminium frame.

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Pitch (P)</th>
<th>Height Moving Point (W)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>52 mm</td>
<td>95 mm</td>
<td>250 mm</td>
<td>2 m/s</td>
<td>2 m/s²</td>
</tr>
</tbody>
</table>

Separator

Unassembled Article number S308CO
Assembled Article number S308COMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Separator

Unassembled Article number S308CO
Assembled Article number S308COMC
MCI: chain opening outer radius
MCE: chain opening inner radius

Length of chain (L) = LSA + M or M1

Half travel distance LSA plus length of curve (M) or (M1)

L = LSA + M or M1

For current information see: www.lappgroup.com
**End brackets**

The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>30LPT10□□□</td>
<td>83</td>
</tr>
<tr>
<td>30LPT15□□□</td>
<td>133</td>
</tr>
<tr>
<td>30LPT20□□□</td>
<td>183</td>
</tr>
<tr>
<td>30LPT25□□□</td>
<td>233</td>
</tr>
<tr>
<td>30LPT30□□□</td>
<td>283</td>
</tr>
<tr>
<td>30LPT35□□□</td>
<td>333</td>
</tr>
<tr>
<td>30LPT40□□□</td>
<td>383</td>
</tr>
<tr>
<td>30LPT45□□□</td>
<td>433</td>
</tr>
<tr>
<td>30LPT50□□□</td>
<td>483</td>
</tr>
<tr>
<td>30LP□□□□□□</td>
<td>A-68</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**

- Complete Set Assembled
  - A30LPKM
- Complete Set Unassembled
  - A30LPK

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel chain for long travel distance

**SILVYN® CHAIN 30LPC**

Steel cable chain with aluminium covers.

### Technical data

- **Inner Height (D)**: 52 mm
- **Pitch (P)**: 95 mm
- **Height Moving Point (W)**: 250 mm
- **Speed**: 2 m/s
- **Acceleration**: 2 m/s²

### Separator

- **Unassembled** Article number S308CO
- **Assembled** Article number S308COMC

MCI: chain opening outer radius

MCE: chain opening inner radius

### L=LSA + M or M1

Length of chain (L) =
Half travel distance LSA plus length of curve (M) or (M1)

### Length of Chain (L)

<table>
<thead>
<tr>
<th>R</th>
<th>H</th>
<th>N1</th>
<th>M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>388</td>
<td>830</td>
<td>1770</td>
</tr>
<tr>
<td>220</td>
<td>528</td>
<td>1145</td>
<td>2515</td>
</tr>
<tr>
<td>250</td>
<td>588</td>
<td>1255</td>
<td>2800</td>
</tr>
<tr>
<td>305</td>
<td>698</td>
<td>1450</td>
<td>3285</td>
</tr>
<tr>
<td>400</td>
<td>888</td>
<td>1740</td>
<td>4065</td>
</tr>
<tr>
<td>535</td>
<td>1158</td>
<td>2110</td>
<td>5105</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
**End brackets**
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

**Steel Type**

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>30LPC106</td>
<td>83</td>
</tr>
<tr>
<td>30LPC156</td>
<td>133</td>
</tr>
<tr>
<td>30LPC206</td>
<td>183</td>
</tr>
<tr>
<td>30LPC256</td>
<td>233</td>
</tr>
<tr>
<td>30LPC306</td>
<td>283</td>
</tr>
<tr>
<td>30LPC356</td>
<td>333</td>
</tr>
<tr>
<td>30LPC406</td>
<td>383</td>
</tr>
<tr>
<td>30LPC456</td>
<td>433</td>
</tr>
<tr>
<td>30LPC506</td>
<td>483</td>
</tr>
<tr>
<td>30LPC556</td>
<td>A-68</td>
</tr>
</tbody>
</table>

**Steel Type Part Numbers**

<table>
<thead>
<tr>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A30LPCKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A30LPCK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel cable chain for long travel distance

SILVYN® CHAIN 35LPT
Steel cable chain with aluminium frame.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>172</td>
<td>107</td>
<td>104</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>11.49</td>
<td>35LPT104□□□</td>
</tr>
<tr>
<td>222</td>
<td>107</td>
<td>154</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>11.86</td>
<td>35LPT154□□□</td>
</tr>
<tr>
<td>272</td>
<td>107</td>
<td>204</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>12.23</td>
<td>35LPT204□□□</td>
</tr>
<tr>
<td>322</td>
<td>107</td>
<td>254</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>12.60</td>
<td>35LPT254□□□</td>
</tr>
<tr>
<td>372</td>
<td>107</td>
<td>304</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>12.97</td>
<td>35LPT304□□□</td>
</tr>
<tr>
<td>422</td>
<td>107</td>
<td>354</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>13.33</td>
<td>35LPT354□□□</td>
</tr>
<tr>
<td>472</td>
<td>107</td>
<td>404</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>13.70</td>
<td>35LPT404□□□</td>
</tr>
<tr>
<td>522</td>
<td>107</td>
<td>454</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>14.07</td>
<td>35LPT454□□□</td>
</tr>
<tr>
<td>572</td>
<td>107</td>
<td>504</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>14.44</td>
<td>35LPT504□□□</td>
</tr>
</tbody>
</table>

L = LSA + M or M1
Length of chain (L)
Half travel distance LSA
plus length of curve (M) or (M1)

LSA
LS
125 mm

Radius R

Separator
Unassembled Article number ST3500F
Assembled Article number ST3500FMC
MCI: chain opening outer radius
MCE: chain opening inner radius

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Steel cable chain for long travel distance

End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>35LPT104□□□</td>
<td>86</td>
</tr>
<tr>
<td>35LPT154□□□</td>
<td>136</td>
</tr>
<tr>
<td>35LPT204□□□</td>
<td>186</td>
</tr>
<tr>
<td>35LPT254□□□</td>
<td>236</td>
</tr>
<tr>
<td>35LPT304□□□</td>
<td>286</td>
</tr>
<tr>
<td>35LPT354□□□</td>
<td>336</td>
</tr>
<tr>
<td>35LPT404□□□</td>
<td>386</td>
</tr>
<tr>
<td>35LPT454□□□</td>
<td>436</td>
</tr>
<tr>
<td>35LPT504□□□</td>
<td>486</td>
</tr>
<tr>
<td>35LPT□□□□□□</td>
<td>A-86</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers
Complete Set Assembled
A35LPKM
Complete Set Unassembled
A35LPK

□□□ Inner width (C)
SILVYN® CHAIN 35LPC
Steel cable chain with aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>172</td>
<td>107</td>
<td>104</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>13.26</td>
<td>35LPC104□□□</td>
</tr>
<tr>
<td>222</td>
<td>107</td>
<td>154</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>14.29</td>
<td>35LPC154□□□</td>
</tr>
<tr>
<td>272</td>
<td>107</td>
<td>204</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>15.32</td>
<td>35LPC204□□□</td>
</tr>
<tr>
<td>322</td>
<td>107</td>
<td>254</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>16.35</td>
<td>35LPC254□□□</td>
</tr>
<tr>
<td>372</td>
<td>107</td>
<td>304</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>17.38</td>
<td>35LPC304□□□</td>
</tr>
<tr>
<td>422</td>
<td>107</td>
<td>354</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>18.41</td>
<td>35LPC354□□□</td>
</tr>
<tr>
<td>472</td>
<td>107</td>
<td>404</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>19.44</td>
<td>35LPC404□□□</td>
</tr>
<tr>
<td>522</td>
<td>107</td>
<td>454</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>20.46</td>
<td>35LPC454□□□</td>
</tr>
<tr>
<td>572</td>
<td>107</td>
<td>504</td>
<td>65</td>
<td>200-250-300-350-400-450</td>
<td>21.49</td>
<td>35LPC504□□□</td>
</tr>
</tbody>
</table>

L = LSA + M or M₁
Length of chain (L)
Half travel distance LSA
plus length of curve (M) or (M₁)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>35LPC10□□□</td>
<td>86</td>
</tr>
<tr>
<td>35LPC15□□□</td>
<td>136</td>
</tr>
<tr>
<td>35LPC20□□□</td>
<td>186</td>
</tr>
<tr>
<td>35LPC25□□□</td>
<td>236</td>
</tr>
<tr>
<td>35LPC30□□□</td>
<td>286</td>
</tr>
<tr>
<td>35LPC35□□□</td>
<td>336</td>
</tr>
<tr>
<td>35LPC40□□□</td>
<td>386</td>
</tr>
<tr>
<td>35LPC45□□□</td>
<td>436</td>
</tr>
<tr>
<td>35LPC50□□□</td>
<td>486</td>
</tr>
<tr>
<td>□□□□□□□□</td>
<td>A-86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A35LPCKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A35LPCCK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel cable chain for long travel distance

SILVYN® CHAIN 40LPT
Steel cable chain with aluminium frame.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>230</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>20.71</td>
<td>40LPT150□□□</td>
</tr>
<tr>
<td>280</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>21.17</td>
<td>40LPT200□□□</td>
</tr>
<tr>
<td>330</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>21.63</td>
<td>40LPT250□□□</td>
</tr>
<tr>
<td>380</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>22.09</td>
<td>40LPT300□□□</td>
</tr>
<tr>
<td>430</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>22.45</td>
<td>40LPT350□□□</td>
</tr>
<tr>
<td>480</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>22.81</td>
<td>40LPT400□□□</td>
</tr>
<tr>
<td>530</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>23.17</td>
<td>40LPT450□□□</td>
</tr>
<tr>
<td>580</td>
<td>161.5</td>
<td>112.5</td>
<td>12.5</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>23.53</td>
<td>40LPT500□□□</td>
</tr>
</tbody>
</table>

L = LSA + M or M1
Length of chain (L) = Half travel distance LSA
plus length of curve (M) or (M1)

Separator
Unassembled Article number S310TCF9
Assembled Article number S310TCF9MC
MCl: chain opening outer radius
MCE: chain opening inner radius
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>40LPT150□□□</td>
<td>144</td>
</tr>
<tr>
<td>40LPT200□□□</td>
<td>194</td>
</tr>
<tr>
<td>40LPT250□□□</td>
<td>244</td>
</tr>
<tr>
<td>40LPT300□□□</td>
<td>294</td>
</tr>
<tr>
<td>40LPT400□□□</td>
<td>394</td>
</tr>
<tr>
<td>40LPT500□□□</td>
<td>494</td>
</tr>
<tr>
<td>40LPT□□□□□□ A-86</td>
<td></td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A40LPKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A40LPK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel cable chain for long travel distance

SILVYN® CHAIN 40LPC

Steel cable chain with aluminium covers.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>230</td>
<td>161.5</td>
<td>150</td>
<td>104</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>23.96</td>
<td>40LPC150□□□</td>
</tr>
<tr>
<td>280</td>
<td>161.5</td>
<td>200</td>
<td>104</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>25.33</td>
<td>40LPC200□□□</td>
</tr>
<tr>
<td>330</td>
<td>161.5</td>
<td>250</td>
<td>104</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>26.69</td>
<td>40LPC250□□□</td>
</tr>
<tr>
<td>380</td>
<td>161.5</td>
<td>300</td>
<td>104</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>28.05</td>
<td>40LPC300□□□</td>
</tr>
<tr>
<td>480</td>
<td>161.5</td>
<td>400</td>
<td>104</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>30.77</td>
<td>40LPC400□□□</td>
</tr>
<tr>
<td>580</td>
<td>161.5</td>
<td>500</td>
<td>104</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>33.50</td>
<td>40LPC500□□□</td>
</tr>
</tbody>
</table>

□□□ to be filled with Radius R

Separator

Unassembled Article number S310TCF9
Assembled Article number S310TCF9MC
MCI: chain opening outer radius
MCE: chain opening inner radius

L=LSA + M or M1

Length of chain (L) = Half travel distance LSA plus length of curve (M) or (M1)

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tiewrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>40LPC150□□□</td>
<td>A40LPCKM</td>
</tr>
<tr>
<td>40LPC200□□□</td>
<td></td>
</tr>
<tr>
<td>40LPC250□□□</td>
<td></td>
</tr>
<tr>
<td>40LPC300□□□</td>
<td></td>
</tr>
<tr>
<td>40LPC350□□□</td>
<td></td>
</tr>
<tr>
<td>40LPC□□□□□</td>
<td></td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Steel cable chain for long travel distance

SILVYN® CHAIN 42LPT
Steel cable chain with aluminium frame.

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>280</td>
<td>191.5</td>
<td>180</td>
<td>138</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>24.71</td>
<td>42LPT 200□□□</td>
</tr>
<tr>
<td>480</td>
<td>191.5</td>
<td>380</td>
<td>138</td>
<td>250-300-350-400-450-500-550-600-700-750-850</td>
<td>27.48</td>
<td>42LPT 400□□□</td>
</tr>
</tbody>
</table>

Length of chain (L) = LSA + M
Half travel distance LSA plus length of curve (M) or (M1)

Separator

Unassembled Article number ST42LF9
Assembled Article number ST42LF9MC
MCI: chain opening outer radius
MCE: chain opening inner radius

For current information see: www.lappgroup.com
End brackets
The end brackets set allows the two ends of the chain to be attached to the equipment. Set complete with tie-wrap clamps available on request.

Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>42LPT150□□□</td>
<td>144</td>
</tr>
<tr>
<td>42LPT200□□□</td>
<td>194</td>
</tr>
<tr>
<td>42LPT250□□□</td>
<td>244</td>
</tr>
<tr>
<td>42LPT300□□□</td>
<td>294</td>
</tr>
<tr>
<td>42LPT400□□□</td>
<td>394</td>
</tr>
<tr>
<td>42LPT500□□□</td>
<td>494</td>
</tr>
<tr>
<td>42LPT□□□□□□</td>
<td>A-86</td>
</tr>
</tbody>
</table>

Steel Type Part Numbers

<table>
<thead>
<tr>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A42LPKM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A42LPK</td>
</tr>
</tbody>
</table>

□□□ Inner width (C)
Guide Channel for
20LPT/LPC - 30LPT/LPC

Special channel guide allows the use of the chain for long travel distance. Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Double Chain Application

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Steel Sliding Plate
Section B-B

Guide with Plastic Sliding Plate
Section B-B

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>59</td>
<td>160</td>
<td>A+4</td>
<td>A+87</td>
<td>1,5</td>
</tr>
<tr>
<td>30</td>
<td>81,5</td>
<td>190</td>
<td>A+4</td>
<td>A+88</td>
<td>2</td>
</tr>
</tbody>
</table>

Part Number CS...
How to order
Chain part number | 30LP100150
Guide channel part number | CS30LP100

Part Number CR...
How to order
Chain part number | 30LP100150
Guide channel part number | CR30LP100

Part Number CA...
How to order
Chain part number | 30LP100150
Guide channel part number | CA30LP100

Part Number CP...
How to order
Chain part number | 30LP100150
Guide channel part number | CP30LP100

For current information see: www.lappgroup.com
Guide Channel for
35LPT/LPC - 40LPT/LPC

Special channel guide allows the use of the chain for long travel distance. Available in galvanised steel and, on request, in stainless steel.

Single Chain Application

Channel guide is available in kit form composed of:
- side walls 2 m standard length
- joining plates
- fixing screws
Empty Guide Section
Section A-A

Guide with Nylon Rollers
Section B-B

Guide with Steel Sliding Plate
Section B-B

Guide with Plastic Sliding Plate
Section B-B

<table>
<thead>
<tr>
<th>Chain type</th>
<th>H1 mm</th>
<th>H2 mm</th>
<th>A1 mm</th>
<th>A2 mm</th>
<th>S mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>107</td>
<td>250</td>
<td>A+8</td>
<td>A+92</td>
<td>2</td>
</tr>
<tr>
<td>40</td>
<td>161.5</td>
<td>325</td>
<td>A+8</td>
<td>A+94</td>
<td>3</td>
</tr>
</tbody>
</table>

Part Number
CS35LPT...

How to order
- Chain part number: 35LPT104200
- Guide channel part number: CS35LPT104

Part Number
CR35LP...

How to order
- Chain part number: 35LPT104200
- Guide channel part number: CR35LPT104

Part Number
CA35LPT...

How to order
- Chain part number: 35LPT104200
- Guide channel part number: CA35LPT104

Part Number
CP35LPT...

How to order
- Chain part number: 35LPT104200
- Guide channel part number: CP35LPT104

For current information see: www.lappgroup.com
Cable chains for robot applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVYN® CHAIN 495</td>
<td>254</td>
</tr>
<tr>
<td>SILVYN® CHAIN 500</td>
<td>256</td>
</tr>
<tr>
<td>SILVYN® CHAIN 510TN/515TN</td>
<td>258</td>
</tr>
<tr>
<td>SILVYN® CHAIN 545</td>
<td>260</td>
</tr>
<tr>
<td>SILVYN® CHAIN 599</td>
<td>262</td>
</tr>
<tr>
<td>SILVYN® CHAIN MULTIFLEX</td>
<td>264</td>
</tr>
</tbody>
</table>
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Robot chain

SILVYN® CHAIN 495
Circular Nylon Cable Chain with removable frames

Technical data

| Inner Height (D)  | 35 mm |
| Speed            | 180 °/s |
| Acceleration     | 180 °/s² |

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/pitch)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>45</td>
<td>45</td>
<td>35</td>
<td>100</td>
<td>0.10</td>
<td>495</td>
</tr>
</tbody>
</table>

Pin
Article number PG305

<table>
<thead>
<tr>
<th>Chain type</th>
<th>Rotation</th>
<th>Pitches</th>
</tr>
</thead>
<tbody>
<tr>
<td>495</td>
<td>90</td>
<td>13</td>
</tr>
<tr>
<td>495</td>
<td>180</td>
<td>18</td>
</tr>
<tr>
<td>495</td>
<td>270</td>
<td>22</td>
</tr>
<tr>
<td>495</td>
<td>360</td>
<td>26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th>Di</th>
<th>De</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>600</td>
<td>755</td>
</tr>
</tbody>
</table>
End brackets
The end brackets set, containing two steel plates screwed to the links, allows the two ends of the chain to be attached to the equipment. The end brackets are installed in one position offering the possibility of attaching the chain externally.

**Steel Type**

**Support Guide**

For correct functioning of the chain it is necessary that the installation is done in a specific position. For this reason there is a support guide available which can do this. For particular applications it is possible to create support guides with attachment plates and special dimensions.

For applications with rotations exceeding 200° it is necessary to use the appropriate accessories for supporting the cable chain.

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A495KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A495K</td>
</tr>
</tbody>
</table>
SILVYN® CHAIN 500
Circular Nylon Cable Chain with removable frames

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/pitch)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>86.5</td>
<td>43</td>
<td>68.5</td>
<td>30</td>
<td>100</td>
<td>0.086</td>
<td>50010</td>
</tr>
<tr>
<td>86.5</td>
<td>43</td>
<td>68.5</td>
<td>30</td>
<td>150</td>
<td>0.086</td>
<td>50020</td>
</tr>
</tbody>
</table>

Separator
Unassembled Article number S500
Assembled Article number S500MC
Pin Article number PG355

Chain type Rotation Pitches

<table>
<thead>
<tr>
<th>Chain type</th>
<th>Rotation</th>
<th>Pitches</th>
</tr>
</thead>
<tbody>
<tr>
<td>50010</td>
<td>90</td>
<td>13</td>
</tr>
<tr>
<td>50010</td>
<td>180</td>
<td>17</td>
</tr>
<tr>
<td>50010</td>
<td>270</td>
<td>21</td>
</tr>
<tr>
<td>50010</td>
<td>360</td>
<td>26</td>
</tr>
<tr>
<td>50020</td>
<td>90</td>
<td>15</td>
</tr>
<tr>
<td>50020</td>
<td>180</td>
<td>19</td>
</tr>
<tr>
<td>50020</td>
<td>270</td>
<td>24</td>
</tr>
<tr>
<td>50020</td>
<td>360</td>
<td>28</td>
</tr>
</tbody>
</table>

R | Di | De

| 100 | 630 | 830 |
| 150 | 630 | 830 |
End brackets
The end brackets set, containing two steel plates screwed to the links, allows the two ends of the chain to be attached to the equipment. The end brackets are installed in one position offering the possibility of attaching the chain externally.

### Steel Type

<table>
<thead>
<tr>
<th>Chain Type</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>50010</td>
<td>330</td>
</tr>
<tr>
<td>50020</td>
<td>410</td>
</tr>
</tbody>
</table>

### Support Guide

For correct functioning of the chain it is necessary that the installation is done in a specific position. For this reason there is a support guide available which can do this. For particular applications it is possible to create support guides with attachment plates and special dimensions. For applications with rotations exceeding 200° it is necessary to use the appropriate accessories for supporting the cable chain.
Protective cable conduit systems and cable carrier systems

Cable chain carriers • Robot chain

SILVYN® CHAIN 510TN / 515TN
Circular Nylon Cable Chain with removable frames

Technical data
- Inner Height (D) 46 mm
- Speed 180 °/s
- Acceleration 180 m/s²

Pin
- 510TN Article number PG511
- 515TN Article number PG515

<table>
<thead>
<tr>
<th>Chain type</th>
<th>Rotation</th>
<th>Pitches</th>
</tr>
</thead>
<tbody>
<tr>
<td>510TN</td>
<td>90</td>
<td>13</td>
</tr>
<tr>
<td>510TN</td>
<td>180</td>
<td>17</td>
</tr>
<tr>
<td>510TN</td>
<td>270</td>
<td>22</td>
</tr>
<tr>
<td>510TN</td>
<td>360</td>
<td>27</td>
</tr>
<tr>
<td>515TN</td>
<td>90</td>
<td>17</td>
</tr>
<tr>
<td>515TN</td>
<td>180</td>
<td>23</td>
</tr>
<tr>
<td>515TN</td>
<td>270</td>
<td>29</td>
</tr>
<tr>
<td>515TN</td>
<td>360</td>
<td>35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R (mm)</th>
<th>Di (mm)</th>
<th>De (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>940</td>
<td>1220</td>
</tr>
<tr>
<td>175</td>
<td>1060</td>
<td>1340</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
End brackets
The end brackets set, containing two steel plates screwed to the links, allow the two ends of the chain to be attached to the equipment. The end brackets are installed in one position offering the possibility of attaching the chain externally.

Steel Type

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
<th>Support Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
<td></td>
</tr>
<tr>
<td>A510TNKM</td>
<td></td>
</tr>
<tr>
<td>A515TNKM</td>
<td></td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
<td></td>
</tr>
<tr>
<td>A510TNK</td>
<td></td>
</tr>
<tr>
<td>A515TNK</td>
<td></td>
</tr>
</tbody>
</table>

For correct functioning of the chain it is necessary that the installation is done in a specific position. For this reason there is a support guide available which can do this. For particular applications it is possible to create support guides with attachment plates and special dimensions. For applications with rotations exceeding 200° it is necessary to use the appropriate accessories for supporting the cable chain.

For current information see: www.lappgroup.com
**SILVYN® CHAIN 545**
Circular Nylon Cable Chain with removable frames

### Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner Height (D)</td>
<td>46 mm</td>
</tr>
<tr>
<td>Speed</td>
<td>180 °/s</td>
</tr>
<tr>
<td>Acceleration</td>
<td>180 m/s²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (mm)</td>
<td>123</td>
</tr>
<tr>
<td>B (mm)</td>
<td>62</td>
</tr>
<tr>
<td>C (mm)</td>
<td>100</td>
</tr>
<tr>
<td>D (mm)</td>
<td>46</td>
</tr>
<tr>
<td>R (mm)</td>
<td>100</td>
</tr>
<tr>
<td>Weight (kg/pitch)</td>
<td>0.20</td>
</tr>
<tr>
<td>Article number</td>
<td>545SI100100</td>
</tr>
</tbody>
</table>

### Separator

<table>
<thead>
<tr>
<th>Type</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unassembled</td>
<td>S445UF</td>
</tr>
<tr>
<td>Assembled</td>
<td>S445UFMC</td>
</tr>
<tr>
<td>Pin</td>
<td>PG545</td>
</tr>
</tbody>
</table>

### Chain type

<table>
<thead>
<tr>
<th>Chain type</th>
<th>Rotation</th>
<th>Pitches</th>
</tr>
</thead>
<tbody>
<tr>
<td>545</td>
<td>90</td>
<td>14</td>
</tr>
<tr>
<td>545</td>
<td>180</td>
<td>18</td>
</tr>
<tr>
<td>545</td>
<td>270</td>
<td>22</td>
</tr>
<tr>
<td>545</td>
<td>360</td>
<td>27</td>
</tr>
</tbody>
</table>

### Assembly dimensions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>100</td>
</tr>
<tr>
<td>Di</td>
<td>485</td>
</tr>
<tr>
<td>De</td>
<td>760</td>
</tr>
</tbody>
</table>
End brackets
The end brackets set, containing two steel plates screwed to the links, allows the two ends of the chain to be attached to the equipment. The end brackets are installed in one position offering the possibility of attaching the chain externally.

<table>
<thead>
<tr>
<th>Steel Type Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
</tr>
<tr>
<td>A545KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
</tr>
<tr>
<td>A545K</td>
</tr>
</tbody>
</table>

For correct functioning of the chain it is necessary that the installation is done in a specific position. For this reason there is a support guide available which can do this. For particular applications it is possible to create support guides with attachment plates and special dimensions.
For applications with rotations exceeding 200° it is necessary to use the appropriate accessories for supporting the cable chain.

For current information see: www.lappgroup.com
SILVYN® CHAIN 599
Circular Nylon Cable Chain with removable frames

Technical data

<table>
<thead>
<tr>
<th>Inner Height (D)</th>
<th>Speed</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>59 mm</td>
<td>180 °/s</td>
<td>180 m/s²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Weight (kg/pitch)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>272</td>
<td>85</td>
<td>210</td>
<td>59</td>
<td>220</td>
<td>0.90</td>
<td>599</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chain type</th>
<th>Rotation</th>
<th>Pitches</th>
</tr>
</thead>
<tbody>
<tr>
<td>599</td>
<td>90</td>
<td>14</td>
</tr>
<tr>
<td>599</td>
<td>180</td>
<td>19</td>
</tr>
<tr>
<td>599</td>
<td>270</td>
<td>23</td>
</tr>
<tr>
<td>599</td>
<td>360</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th>Di</th>
<th>De</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>1400</td>
<td>2000</td>
</tr>
</tbody>
</table>
End brackets
The end brackets set, containing two steel plates screwed to the links, allows the two ends of the chain to be attached to the equipment. The end brackets are installed in one position offering the possibility of attaching the chain externally.

<table>
<thead>
<tr>
<th>Steel Type</th>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Set Assembled</td>
<td>A599KM</td>
</tr>
<tr>
<td>Complete Set Unassembled</td>
<td>A599K</td>
</tr>
</tbody>
</table>

For correct functioning of the chain it is necessary that the installation is done in a specific position. For this reason there is a support guide available which can do this. For particular applications it is possible to create support guides with attachment plates and special dimensions. For applications with rotations exceeding 200° it is necessary to use the appropriate accessories for supporting the cable chain.
Protective cable conduit systems and cable carrier systems
Cable chain carriers • Robot chain

SILVYN® CHAIN MULTIFLEX
Circular Nylon Cable Chain for highly flexible movements

Technical data

<table>
<thead>
<tr>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>R (mm)</th>
<th>Chain length (mm)</th>
<th>Weight (kg/m)</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100</td>
<td>999</td>
<td>1.6</td>
<td>61208965 - MFC65100</td>
</tr>
</tbody>
</table>

Info
• Torsion/Pitch: 10°
End Brackets
The end brackets allow the two ends of the chain to be attached to the equipment.

With cable strain relief
Without cable strain relief
With sliding clamp

<table>
<thead>
<tr>
<th>Plastic fastener</th>
<th>Plastic fastener</th>
<th>Plastic fastener</th>
</tr>
</thead>
<tbody>
<tr>
<td>standard fastening</td>
<td>standard fastening</td>
<td>standard fastening</td>
</tr>
<tr>
<td>61208968 - AMF65K01</td>
<td>61208973 - AMF65K02</td>
<td>61208977 - AMF65K03</td>
</tr>
<tr>
<td>front fastening</td>
<td>front fastening</td>
<td>front fastening</td>
</tr>
<tr>
<td>61208970 - AMF65K01F</td>
<td>61208975 - AMF65K02F</td>
<td>61208979 - AMF65K03F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metal fastener</th>
<th>Metal fastener</th>
<th>Metal fastener</th>
</tr>
</thead>
<tbody>
<tr>
<td>standard fastening</td>
<td>standard fastening</td>
<td>standard fastening</td>
</tr>
<tr>
<td>61208969 - AMF65M01</td>
<td>612089674 - AMF65M02</td>
<td>612089678 - AMF65M03</td>
</tr>
<tr>
<td>front fastening</td>
<td>front fastening</td>
<td>front fastening</td>
</tr>
<tr>
<td>61208971 - AMF65M01F</td>
<td>61208976 - AMF65M02F</td>
<td>61208980 - AMF65M03F</td>
</tr>
</tbody>
</table>
General cable chain accessory

Nylon Tiewrap Clamp

To allow easy fixing of the cables at the chain’s end brackets, we recommend to use strong nylon tiewrap clamps. The tiewrap is mounted onto a steel profile to assure a strong support. This fixing system is available for different cable chain series and can be found directly on the product pages.

Steel Cable Clamps

The steel cable clamps connect the cable to the end brackets of the chain. The plastic counter pressure cradle with the integrated screw tightens and fix the cable. The smooth surface and the design of the cradles guarantee high stability and avoid any damage to the cables. Special versions are available on request.

A fixing set is composed by the following parts:
- steel clamps with pressure cradle
- counter pressure cradle
- doublesided cradle for double and triple clamps
- steel mounting rails

Pin Tool

Tool to safely insert and remove the yellow pins

<table>
<thead>
<tr>
<th>Part No.</th>
<th>suitable for chain type</th>
<th>Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>PZ010</td>
<td>660 - 770 - 445</td>
<td>Single</td>
</tr>
<tr>
<td>PZ036</td>
<td>306 - 307 - 326</td>
<td>Triple</td>
</tr>
<tr>
<td>PZ038</td>
<td>308 - 328</td>
<td>Triple</td>
</tr>
<tr>
<td>PZ039</td>
<td>309</td>
<td>Triple</td>
</tr>
<tr>
<td>PZ475</td>
<td></td>
<td>Single</td>
</tr>
</tbody>
</table>
Steel cable clamps

C-profile rail

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000002</td>
<td>Standard 1000 mm; available on request with different length</td>
</tr>
</tbody>
</table>

Single clamp in zinc-plated steel with 1 pressure cradle and 1 counter pressure cradle

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Diameter mm</th>
<th>L</th>
<th>H max</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000614C</td>
<td>06-14</td>
<td>20</td>
<td>64</td>
</tr>
<tr>
<td>6001418C</td>
<td>14-18</td>
<td>22</td>
<td>73</td>
</tr>
<tr>
<td>6001822C</td>
<td>18-22</td>
<td>26</td>
<td>77</td>
</tr>
<tr>
<td>6002226C</td>
<td>22-26</td>
<td>30</td>
<td>81</td>
</tr>
<tr>
<td>6002630C</td>
<td>26-30</td>
<td>34</td>
<td>85</td>
</tr>
<tr>
<td>6003034C</td>
<td>30-34</td>
<td>38</td>
<td>90</td>
</tr>
<tr>
<td>6003438C</td>
<td>34-38</td>
<td>43</td>
<td>100</td>
</tr>
<tr>
<td>6003842C</td>
<td>38-42</td>
<td>47</td>
<td>113</td>
</tr>
<tr>
<td>6004246C</td>
<td>42-46</td>
<td>52</td>
<td>120</td>
</tr>
<tr>
<td>6004650C</td>
<td>46-50</td>
<td>58</td>
<td>130</td>
</tr>
<tr>
<td>6005054C</td>
<td>50-54</td>
<td>68</td>
<td>139</td>
</tr>
<tr>
<td>6005458C</td>
<td>54-58</td>
<td>75</td>
<td>147</td>
</tr>
<tr>
<td>6005864C</td>
<td>58-64</td>
<td>82</td>
<td>155</td>
</tr>
<tr>
<td>6006470C</td>
<td>64-70</td>
<td>90</td>
<td>163</td>
</tr>
</tbody>
</table>

Double clamp in zinc-plated steel set complete with 1 pressure cradle, 1 double sided cradle and 1 counter pressure cradle

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Diameter mm</th>
<th>L</th>
<th>H max</th>
</tr>
</thead>
<tbody>
<tr>
<td>6020608C</td>
<td>06-08</td>
<td>20</td>
<td>64</td>
</tr>
<tr>
<td>6020810C</td>
<td>08-10</td>
<td>20</td>
<td>88</td>
</tr>
<tr>
<td>6021014C</td>
<td>10-14</td>
<td>20</td>
<td>88</td>
</tr>
<tr>
<td>6021418C</td>
<td>14-18</td>
<td>21</td>
<td>94</td>
</tr>
<tr>
<td>6021822C</td>
<td>18-22</td>
<td>26</td>
<td>110</td>
</tr>
<tr>
<td>6022226C</td>
<td>22-26</td>
<td>30</td>
<td>121</td>
</tr>
<tr>
<td>6022630C</td>
<td>26-30</td>
<td>34</td>
<td>128</td>
</tr>
<tr>
<td>6023034C</td>
<td>30-34</td>
<td>38</td>
<td>134</td>
</tr>
<tr>
<td>6023438C</td>
<td>34-38</td>
<td>43</td>
<td>156</td>
</tr>
<tr>
<td>6023842C</td>
<td>38-42</td>
<td>47</td>
<td>165</td>
</tr>
</tbody>
</table>

Triple clamp in zinc-plated steel set complete with 1 pressure cradle, with plastic insert, 2 double sided cradles and 1 counter pressure cradle

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Diameter mm</th>
<th>L</th>
<th>H max</th>
</tr>
</thead>
<tbody>
<tr>
<td>6031012C</td>
<td>10-12</td>
<td>16</td>
<td>87</td>
</tr>
<tr>
<td>6031214C</td>
<td>12-14</td>
<td>17</td>
<td>97</td>
</tr>
<tr>
<td>6031416C</td>
<td>14-16</td>
<td>19</td>
<td>102</td>
</tr>
<tr>
<td>6031618C</td>
<td>16-18</td>
<td>22</td>
<td>112</td>
</tr>
<tr>
<td>6031820C</td>
<td>18-20</td>
<td>24</td>
<td>116</td>
</tr>
<tr>
<td>6032022C</td>
<td>20-22</td>
<td>26</td>
<td>129</td>
</tr>
<tr>
<td>6032224C</td>
<td>22-24</td>
<td>28</td>
<td>133</td>
</tr>
<tr>
<td>6032426C</td>
<td>24-26</td>
<td>31</td>
<td>143</td>
</tr>
<tr>
<td>6032628C</td>
<td>26-28</td>
<td>33</td>
<td>150</td>
</tr>
<tr>
<td>6032830C</td>
<td>28-30</td>
<td>35</td>
<td>158</td>
</tr>
</tbody>
</table>

Counter pressure cradle

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Diameter mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>6100412</td>
<td>06-12</td>
</tr>
<tr>
<td>6101214</td>
<td>12-14</td>
</tr>
<tr>
<td>6101618</td>
<td>16-18</td>
</tr>
<tr>
<td>6101822</td>
<td>18-22</td>
</tr>
<tr>
<td>6102226</td>
<td>22-26</td>
</tr>
<tr>
<td>6102630</td>
<td>26-30</td>
</tr>
<tr>
<td>6103034</td>
<td>30-34</td>
</tr>
<tr>
<td>6103438</td>
<td>34-38</td>
</tr>
</tbody>
</table>

Double sided cradle

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Diameter mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>6201012</td>
<td>10-12</td>
</tr>
<tr>
<td>6201214</td>
<td>12-14</td>
</tr>
<tr>
<td>6201416</td>
<td>14-16</td>
</tr>
<tr>
<td>6201618</td>
<td>16-18</td>
</tr>
<tr>
<td>6201822</td>
<td>18-22</td>
</tr>
</tbody>
</table>

Plastic insert for triple clamp (order separately)

<table>
<thead>
<tr>
<th>Part.no</th>
<th>Diameter mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>6300612X</td>
<td>10-12</td>
</tr>
<tr>
<td>6301214X</td>
<td>12-14</td>
</tr>
<tr>
<td>6301416X</td>
<td>14-16</td>
</tr>
<tr>
<td>6301618X</td>
<td>16-20</td>
</tr>
</tbody>
</table>

For current information see: www.lappgroup.com
ÖLFLEX® Power and control cables

ÖLFLEX® has become synonymous with power and control cables. Our flexible and oil-resistant cables satisfy the highest demands and can withstand even the very toughest conditions.

**Application range**
- Industrial machinery, machine tools, plant and equipment engineering
- Measurement, control, heating and air conditioning systems
- Wind power and photovoltaic systems
- Public buildings, airports and stations.
- Medical technology, chemical industry, composting plants and sewage works
- Food and beverage industry
- Power drive systems
- Robot applications
- Railway applications
ÖLFLEX® SERVO FD 781 CY

Screened, low capacitive servo cable with PVC outer sheath for flexible power chain application

Info

- Core Line Performance – Medium to increased travel lengths or acceleration
- EMC-compliant

Benefits

- Well-proven and reliable
- Longer cable connection possible between frequency converter and motor due to low capacitance design
- Copper screening complies with EMC requirements and protects against electromagnetic interference

Application range

- Connecting cable between Frequency converter and motor
- In power chains or moving machine parts
- For power circuits in machine cabling
- In dry, damp or wet interiors with normal mechanical stress conditions
- Only for outdoor use within the indicated operating temperature range, with UV-protection

Product features

- Oil-resistant
- Flame retardant acc. to IEC 60332-1-2
- Low-adhesive surface

Norm references / Approvals

- Based on VDE 0250/0285
- For use in power chains: Please comply with assembly guideline Appendix T3

Technical data

- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000104
  ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  Black with white numbers according to VDE 0293-1
- Conductor stranding
  Extra-fine wire according to VDE 0295, class 6 / IEC 60228, class 6
- Minimum bending radius
  Flexing: up from 7.5 × outer diameter
  Fixed installation: 4 × outer diameter
- Nominal voltage
  U0/U: 600/1000 V
- Test voltage
  Core/Core: 4 kV
  Core/Screen: 4 kV
- Protective conductor
  G = with gn-ye protective conductor
- Bending cycles & operation parameters
  See Selection Table A2-1 in the appendix of our online catalogue
- Temperature range
  Flexing: -5°C to +70°C
  Fixed installation: -40°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® SERVO FD 781 CY</td>
<td>4 G 1.5</td>
<td>9.8</td>
<td>89</td>
<td>157</td>
</tr>
<tr>
<td>0036321</td>
<td>4 G 2.5</td>
<td>11.9</td>
<td>133.8</td>
<td>233</td>
</tr>
<tr>
<td>0036322</td>
<td>4 G 4</td>
<td>13.5</td>
<td>210.9</td>
<td>335</td>
</tr>
<tr>
<td>0036324</td>
<td>4 G 10</td>
<td>19.7</td>
<td>488.2</td>
<td>747</td>
</tr>
<tr>
<td>0036325</td>
<td>4 G 16</td>
<td>23.9</td>
<td>744.8</td>
<td>1109</td>
</tr>
<tr>
<td>0036327</td>
<td>4 G 35</td>
<td>33.3</td>
<td>1565.4</td>
<td>2264</td>
</tr>
<tr>
<td>0036328</td>
<td>4 G 50</td>
<td>38.3</td>
<td>2174.9</td>
<td>3090</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T11 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

For current information see: www.lappgroup.com
ÖLFLEX® SERVO FD 7TCE
Highly flexible, low capacitive servo motor cable with TC-ER (UL) or c(UL)-Listing for North America

Benefits
- Multi-standard certification offers universal application range, reduces part varieties and saves costs
- TC-ER and Flexible Motor Supply Cable listings enable open wiring on cable trays as well as the static or highly flexible usage for industrial machines with the same cable
- Cost-saving, easy installation due to omission of closed raceways (suitable for open wiring)
- Longer cable connection possible between frequency converter and motor due to low capacitance design
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Ideal for export-oriented machinery and equipment manufacturers thanks to high normative acceptance by the North American NEC (National Electrical Code)

Application range
- Connecting cable between servo controller and motor
- In power chains or moving machine parts
- Static open wiring on and between cable tray an industrial machine acc. NEC
- Industrial machinery and machine tools
- Linear robots, automated handling equipment
- Assembly lines, production lines, in all kinds of machines

Product features
- Oil-resistant according to UL OIL RES I & II
- Flame-retardant according to CSA FT4; UL Vertical-Tray Flame Test
- -40°C Cold Bend; -25°C Cold Impact; 90°C Wet or Dry
- Sunlight Resistant
- Direct Burial (according US standard)
- Low capacitance

Norm references / Approvals
- UL TC-ER (exposed run) per UL 1277
- Flexible Motor Supply Cable per UL 2277
- Class 1 Division 2 per NEC Article 501
- C(UL) CIC/TC FT4 (18AWG – 14AWG); cRU AWM I/II A/B FT4
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Extra-fine wire Strand made of bare copper
- Core insulation: PUR compound
- Individual design depending on the item: power cores without or with one or two individually screened control core pairs twisted together in short lay lengths
- Non-woven wrapping
- Tinned-copper braiding
- Outer sheath: Specially formulated thermoplastic elastomer (TPE), orange

Technical data
- Core identification code
  - Power cores: black with marking U/L1/C/L+; V/L2/W/L3/D/L-
  - GN/YE protective conductor
  - Optional designs with one pair of control cores: black; white Two pairs of control cores: black with white numbers: 5, 6, 7, 8
- Certifications
  - USA: UL TC-ER, Flexible Motor Supply Canada: c(UL) CIC/TC FT4;
  - cRU AWM I/II A/B FT4
- Conductor stranding
  - Extra-fine wire according to VDE 0295, class 6 / IEC 60228, class 6
- Minimum bending radius
  - Flexing: up from 7.5 × outer diameter
  - Fixed installation: 5 × outer diameter
- Nominal voltage
  - UL TC: 600 V
  - UL Flexible Motor Supply: 1000 V
  - c(UL) CIC/TC FT4: 600 V
  - cRU AWM: 1000 V
- Test voltage
  - UL Flexible: 1000 V
  - IEC UL/UL: 600/1000 V
- Core identification code: Core/Core: 4 kV
- Core/Screen: 2 kV
- Protective conductor: G = with GN-YE protective conductor
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Temperature range
  - Occasional flexing: -25°C to +90°C
  - Fixed installation: -40°C to +90°C

### Table: ÖLFLEX® SERVO FD 7TCE

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700750</td>
<td>4 G 1.5</td>
<td>10.2</td>
<td>90.8</td>
<td>174</td>
</tr>
<tr>
<td>700751</td>
<td>4 G 2.5</td>
<td>11.4</td>
<td>141.4</td>
<td>230</td>
</tr>
<tr>
<td>700752</td>
<td>4 G 6</td>
<td>13.1</td>
<td>200.9</td>
<td>319</td>
</tr>
<tr>
<td>700753</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>15</td>
<td>282.8</td>
<td>431</td>
</tr>
<tr>
<td>700754</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>12.7</td>
<td>144.4</td>
<td>259</td>
</tr>
<tr>
<td>700755</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>13.8</td>
<td>199.4</td>
<td>356</td>
</tr>
<tr>
<td>700756</td>
<td>4 G 8 + (2 × 1.5)</td>
<td>16.1</td>
<td>273.8</td>
<td>447</td>
</tr>
<tr>
<td>700757</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>17.1</td>
<td>345.3</td>
<td>537</td>
</tr>
<tr>
<td>700758</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>13.3</td>
<td>151.8</td>
<td>280</td>
</tr>
<tr>
<td>700759</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>14.8</td>
<td>190.5</td>
<td>355</td>
</tr>
<tr>
<td>700760</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>15.9</td>
<td>277.7</td>
<td>410</td>
</tr>
<tr>
<td>700761</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>17.9</td>
<td>318.5</td>
<td>525</td>
</tr>
<tr>
<td>700762</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>18.8</td>
<td>389.9</td>
<td>613</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request. Please find our standard lengths at: www.lappkabel.de/en/cable-standard-lengths.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Power and control cables

Servo applications - power drive systems, certified

ÖLFLEX® SERVO FD 796 P

Servo cable with PUR outer sheath for highly dynamic power chain application - certified for North America

Info

- Extended Line Performance - Long travel lengths or high acceleration
- AWM certification for USA and Canada
- VDE-tested characteristics

Benefits

- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Longer cable connection possible between frequency converter and motor due to low capacitance design
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments
- Multi-standard certification reduces part varieties and saves costs

Application range

- Connecting cable between servo controller and motor
- In power chains or moving machine parts
- For use in assembling & pick-and-place machinery
- Particularly in wet areas of machine tools and transfer lines
- For indoor and outdoor use

Product features

- Flammability: UL/CSA: VW-1, FT1
  IEC/EN: 60332-1-2
- Halogen-free materials
- Abrasion and notch-resistant
- Oil-resistant

Norm references / Approvals

- VDE - reg. no. 8591 (≥ 4G1,5)
  UL AWM Style 20234
  cULus AWM I/II A/B, 1000V 80° FT1
  CSA AWM I/II A, 1000V 80° FT1
  UL File No. E63634
  For use in power chains: please comply with assembly guideline Appendix T3

Product Make-up

- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: polypropylene (PP)
- According to P/N individual design: Power cores with one or with two control pair(s), twisted together in short lay length
- Non-woven wrapping
- PUR outer sheath, black (RAL 9005)

Technical data

- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000104
  ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  Power cores: black with marking U/L1/C/L+; V/L2; W/L3/D/L-;
  GN/YE protective conductor
  Single-paired versions: black; white
  Double-paired versions: black with white numbers 5; 6; 7; 8
  0,34 mm² pairs: WH/BN/GN/YE
- Conductor stranding
  Extra-fine wire according to VDE 0295, class 6
- Minimum bending radius
  Flexing: up from 7.5 x outer diameter
  Fixed installation: 4 x outer diameter
- Nominal voltage
  IEC U0/U: 600/1000 V
  UL & CSA: 1000 V
- Test voltage
  Core/Core: 4 kV
  Core/Screen: 2 kV
- Protective conductor
  G = with GN/YE protective conductor
- Bending cycles & operation parameters
  See Selection Table A2-1 in the appendix of our online catalogue
- Temperature range
  Flexing: -40°C to +90°C
  (UL/CSA: +80°C)
  Fixed installation: -50°C to +90°C
  (UL/CSA: +80°C)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® SERVO FD 796 P</td>
<td>4 G 1.5 + (2 x 1.5)</td>
<td>11.7</td>
<td>99</td>
<td>217</td>
</tr>
<tr>
<td>0025319</td>
<td>4 G 2.5 + (2 x 1.5)</td>
<td>13.1</td>
<td>134</td>
<td>270</td>
</tr>
<tr>
<td>0025320</td>
<td>4 G 4 + (2 x 1.5)</td>
<td>14.2</td>
<td>195</td>
<td>333</td>
</tr>
<tr>
<td>0025321</td>
<td>4 G 6 + (2 x 1.5)</td>
<td>16</td>
<td>272</td>
<td>403</td>
</tr>
<tr>
<td>0025322</td>
<td>4 G 10 + (2 x 1.5)</td>
<td>18.4</td>
<td>425</td>
<td>581</td>
</tr>
<tr>
<td>0025323</td>
<td>4 G 16 + (2 x 1.5)</td>
<td>22.1</td>
<td>656</td>
<td>887</td>
</tr>
<tr>
<td>0025324</td>
<td>4 G 25 + (2 x 0.34)</td>
<td>16.9</td>
<td>54</td>
<td>143</td>
</tr>
<tr>
<td>0025325</td>
<td>4 G 35 + (2 x 0.75)</td>
<td>12.3</td>
<td>103</td>
<td>209</td>
</tr>
<tr>
<td>0025326</td>
<td>4 G 50 + (2 x 1)</td>
<td>14.3</td>
<td>152</td>
<td>306</td>
</tr>
<tr>
<td>0025327</td>
<td>4 G 70 + (2 x 1.5)</td>
<td>17.1</td>
<td>218</td>
<td>381</td>
</tr>
<tr>
<td>0025328</td>
<td>4 G 100 + (2 x 1.5)</td>
<td>17.1</td>
<td>231</td>
<td>388</td>
</tr>
<tr>
<td>0025329</td>
<td>4 G 150 + (2 x 1.5)</td>
<td>17.1</td>
<td>308</td>
<td>460</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

For current information see: www.lappgroup.com
ÖLFLEX® SERVO FD 796 CP
Screened servo cable with PUR outer sheath for highly dynamic power chain application - certified

Benefits
- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Suitable for use with servomotor product lines from leading drive manufacturers
- Longer cable connection possible between frequency converter and motor due to low capacitance design
- Resistant to contact with many mineral oil-based lubricants, dilutited acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments
- Copper braiding screens the cable against electromagnetic interference

Application range
- Connecting cable between servo controller and motor
- In power chains or moving machine parts
- For use in assembling & pick-and-place machinery
- Particularly in wet areas of machine tools and transfer lines
- Assembly lines, production lines, in all kinds of machines
- For indoor and outdoor use

Product features
- Flammability: UL/CSA: VW-1, FT1
- Halogen-free materials
- Abrasion and notch-resistant
- Oil-resistant

Norm references / Approvals
- VDE - Reg. - No. 8591 (0027925, 926, 927, 930 pending)
- UL AWM Style 20234
- cULus AWM I/II A/B, 1000V 80° FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: polypropylene (PP)
- Individual design depending on the item: Power cores without or with one or two individually shielded control core pairs twisted together in short lay lengths; Power cores with control core triplet twisted together in short lay lengths
- Non-woven wrapping
- Tinmed-copper braiding
- PUR outer sheath, orange (RAL 2003)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000104
  ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  Power cores: black with marking U/L1/C/L+; V/L2; W/L3/D/L-
  GN/YE protective conductor
  Single-paired versions: individual design depending on the item black; white or brown; white
  Double-paired versions: black with white numbers 5; 6; 7; 8 0.34 mm² pairs: WH/BN/GN/YE
  Triplet: black with white numbers 1; 2; 3
- Conductor stranding
  Extra-fine wire according to VDE 0295, class 6 / IEC 60228 class 6
- Minimum bending radius
  Flexing: from 7.5 × outer diameter (up to 16 mm²)
  Fixed installation: 4 × outer diameter
- Nominal voltage
  Power cores and control cores: IEC U0/U: 600/1000 V
  UL & CSA: 1000 V
- Test voltage
  Core/Core: 4 kV
  Core/Screen: 2 kV
- Protective conductor
  G = with GN-YE protective conductor
- Bending cycles & operation parameters
  See Selection Table A2-1 in the appendix of our online catalogue
- Temperature range
  Flexing: -40°C to +90°C (UL/CSA: +80°C)
  Fixed installation: -50°C to +90°C (UL/CSA: +80°C)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm approx.)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® SERVO FD 796 CP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Article number</td>
<td>Number of cores and mm² per conductor</td>
<td>Outer diameter (mm approx.)</td>
<td>Copper index (kg/km)</td>
<td>Weight (kg/km)</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>0027932</td>
<td>4 G 1.5 + (3 × 1)</td>
<td>12</td>
<td>143.8</td>
<td>220</td>
</tr>
<tr>
<td>0027959</td>
<td>4 G 1.5 + (2 × 1.5)</td>
<td>11.6</td>
<td>135</td>
<td>251</td>
</tr>
<tr>
<td>0027927</td>
<td>4 G 2.5 + (2 × 0.5)</td>
<td>12.6</td>
<td>161.2</td>
<td>243</td>
</tr>
<tr>
<td>0027978</td>
<td>4 G 2.5 + (2 × 1)</td>
<td>13.5</td>
<td>169.2</td>
<td>253</td>
</tr>
<tr>
<td>0027993</td>
<td>4 G 2.5 + (3 × 1)</td>
<td>13.5</td>
<td>204.3</td>
<td>294</td>
</tr>
<tr>
<td>0027960</td>
<td>4 G 2.5 + (2 × 1.5)</td>
<td>13.4</td>
<td>188</td>
<td>318</td>
</tr>
<tr>
<td>0027981</td>
<td>4 G 4 + (2 × 1)</td>
<td>14.8</td>
<td>238.9</td>
<td>359</td>
</tr>
<tr>
<td>0027934</td>
<td>4 G 4 + (3 × 1)</td>
<td>14.7</td>
<td>250</td>
<td>361</td>
</tr>
<tr>
<td>0027961</td>
<td>4 G 4 + (2 × 1.5)</td>
<td>14.8</td>
<td>235</td>
<td>385</td>
</tr>
<tr>
<td>0027982</td>
<td>4 G 6 + (2 × 1)</td>
<td>16.8</td>
<td>339.5</td>
<td>469</td>
</tr>
<tr>
<td>0027962</td>
<td>4 G 6 + (2 × 1.5)</td>
<td>16.8</td>
<td>329</td>
<td>486</td>
</tr>
<tr>
<td>0027935</td>
<td>4 G 6 + (3 × 1.5)</td>
<td>16.5</td>
<td>381.4</td>
<td>505</td>
</tr>
<tr>
<td>0027983</td>
<td>4 G 10 + (2 × 1)</td>
<td>18.8</td>
<td>530.1</td>
<td>689</td>
</tr>
<tr>
<td>0027963</td>
<td>4 G 10 + (2 × 1.5)</td>
<td>19.4</td>
<td>515</td>
<td>701</td>
</tr>
<tr>
<td>0027936</td>
<td>4 G 10 + (3 × 1.5)</td>
<td>19.7</td>
<td>568.9</td>
<td>722</td>
</tr>
<tr>
<td>0027984</td>
<td>4 G 16 + (2 × 1)</td>
<td>22.8</td>
<td>786.7</td>
<td>985</td>
</tr>
<tr>
<td>0027994</td>
<td>4 G 16 + (2 × 1.5)</td>
<td>23.1</td>
<td>757</td>
<td>1048</td>
</tr>
<tr>
<td>0027937</td>
<td>4 G 16 + (3 × 1.5)</td>
<td>23.3</td>
<td>824.6</td>
<td>1030</td>
</tr>
<tr>
<td>0027965</td>
<td>4 G 25 + (2 × 1.5)</td>
<td>26.6</td>
<td>1147</td>
<td>1532</td>
</tr>
<tr>
<td>0027966</td>
<td>4 G 35 + (2 × 1.5)</td>
<td>30.9</td>
<td>1538</td>
<td>2097</td>
</tr>
<tr>
<td>0027967</td>
<td>4 G 50 + (2 × 1.5)</td>
<td>34</td>
<td>2181</td>
<td>2721</td>
</tr>
<tr>
<td>0027969</td>
<td>4 G 1.5 + 2 × (2 × 0.75)</td>
<td>12.2</td>
<td>159</td>
<td>313</td>
</tr>
<tr>
<td>0027970</td>
<td>4 G 2.5 + 2 × (2 × 1)</td>
<td>14.6</td>
<td>207</td>
<td>395</td>
</tr>
<tr>
<td>0027980</td>
<td>4 G 4 + 2 × (2 × 1)</td>
<td>16.1</td>
<td>274</td>
<td>466</td>
</tr>
<tr>
<td>0027971</td>
<td>4 G 4 + (2 × 1) + (2 × 1.5)</td>
<td>16.3</td>
<td>344</td>
<td>485</td>
</tr>
<tr>
<td>0027972</td>
<td>4 G 6 + (2 × 1) + (2 × 1.5)</td>
<td>18.1</td>
<td>436</td>
<td>588</td>
</tr>
<tr>
<td>0027973</td>
<td>4 G 10 + (2 × 1) + (2 × 1.5)</td>
<td>21.8</td>
<td>610</td>
<td>819</td>
</tr>
<tr>
<td>0027974</td>
<td>4 G 16 + 2 × (2 × 1.5)</td>
<td>25.5</td>
<td>801</td>
<td>1135</td>
</tr>
<tr>
<td>0027975</td>
<td>4 G 25 + 2 × (2 × 1.5)</td>
<td>28.8</td>
<td>1187</td>
<td>1559</td>
</tr>
<tr>
<td>0027976</td>
<td>4 G 35 + 2 × (2 × 1.5)</td>
<td>30.9</td>
<td>1588</td>
<td>2093</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
ÖLFLEX® SERVO FD 798 CP

Screened encoder cable with PUR outer sheath for highly dynamic power chain application – certified

Benefits

- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Suitable for use with encoders & resolvers from leading manufacturers
- Thin, optimised for weight and volume
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments

Application range

- Connecting cable between servo controller and encoder/resolver
- Connecting cable between servo controller and speed generators
- In power chains or moving machine parts
- Particularly in wet areas of machine tools and transfer lines
- Assembly lines, production lines, in all kinds of machines
- For indoor and outdoor use

Product features

- Flammability:
  - UL/CSA: VW-1, FT1
  - IEC/EN: 60332-1-2
- Halogen-free materials
- Low-capacitance design
- Abrasion and notch-resistant
- Oil-resistant

Norm references / Approvals

- UL AWM Style 20236
- CSA AWM IA/B; IIA/B FT 1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

Technical data

- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - Details see datasheet ÖLFLEX® SERVO FD 798 CP
- Conductor stranding
  - Fine wire or extra-fine wire
- Minimum bending radius
  - Flexing: up from 7.5 × outer diameter
  - Fixed installation: 4 × outer diameter
- Nominal voltage
  - IEC: 30 V
  - UL & CSA: 30 V
- Test voltage
  - Core/core: 1500 V rms
  - Core/screen: 750 V rms
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Temperature range
  - Flexing: -40°C to +90°C (UL/CSA: +80°C)
  - Fixed installation: -50°C to +90°C (UL/CSA: +80°C)

Article number | Number of cores and mm² per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km)
--- | --- | --- | --- | ---
0036910 | 4 × 2 × 0.34 + 4 × 0.5 | 8.9 | 79 | 125
0036911 | 3 × (2 × 0.14) + 2 × (0.5) | 8.9 | 70 | 120
0036912 | 3 × (2 × 0.14) + 4 × 0.14 + 2 × 0.5 | 8.8 | 68 | 110
0036913 | 3 × (2 × 0.14) + 4 × 0.14 + 2 × 0.5 + 0.22 | 9.4 | 80 | 130
0036914 | 2 × 0.14 + 2 × 0.14 + 2 × 0.18 | 8.8 | 71 | 110
0036915 | 4 × 2 × 0.25 + 2 × 1 | 8.8 | 63 | 109
0036916 | 6 × 2 × 0.25 + 2 × 0.5 | 10.3 | 67 | 121
0036917 | 10 × 0.14 + 2 × 0.5 | 7.7 | 41 | 82
0036918 | 10 × 0.14 + 4 × 0.5 | 8.1 | 54 | 98
0036920 | 4 × 2 × 0.14 + 4 × 0.14 | 8.2 | 51 | 95
0036921 | 4 × 2 × 0.25 | 7.6 | 38 | 75
0036923 | 8 × 2 × 0.18 | 7.8 | 51 | 85
0036924 | 4 × 2 × 0.18 | 6.4 | 30 | 52
0036926 | 12 × 0.22 | 6.9 | 44 | 73
0036927 | 4 × 2 × 0.25 + 2 × 0.5 | 8.5 | 62 | 98
0036928 | 2 × 0.14 + 2 × (2 × 0.14) + 4 × 0.14 + 0.22 | 9.1 | 79 | 135
0036929 | 2 × (2 × 0.25) + 2 × 0.5 | 8.7 | 46 | 98

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

DESINA® is a registered trademark of the German Machine Tool Builders’ Association.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Power and control cables

Power chain applications • Servo applications - power drive systems, certified

Special Encoder and resolver cables
Compatible with various drive systems

Info
• Fits to various encoder systems
• PUR outer sheath
• AWM certification for USA and Canada

Benefits
• Allows much faster speed and acceleration which increases the economic efficiency of the machines
• Multi-standard certification reduces part varieties and saves costs
• Increased durability under harsh conditions thanks to robust PUR outer sheath
• Resistant to contact with many mineral oil-based lubricants, dilute acids, aqueous alkaline solutions and other chemical media

Application range
• Servo drives and servo assemblies
• In power chains or moving machine parts
• Plant engineering
• Particularly in wet areas of machine tools and transfer lines
• Assembly lines, production lines, in all kinds of machines

Product features
• Abrasion and notch-resistant
• Oil-resistant
• Flame-retardant according to IEC 60332-1-2 & CSA FT1

Norm references / Approvals
• UL/CSA AWM Styles please refer to data sheet
• UL File No. E63634
• For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
• Design according to specific OEM standard
• Refer to data sheet for more details
• PUR outer sheath
• Outer sheath colour: see part table

Technical data
Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000104
ETIM 5.0/6.0 Class-Description: Control cable

General
More technical information of the abovementioned servo cables are available upon request.

<table>
<thead>
<tr>
<th>Article number</th>
<th>Suitable for Heidenhain</th>
<th>Suitable for ELAU</th>
<th>Suitable for KEB</th>
<th>Suitable for Berger Lahr</th>
<th>Suitable for B &amp; R</th>
<th>Suitable for FANUC</th>
<th>Suitable for FANUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>70388718</td>
<td>4 × 2 × 0.14 + 4 × 0.5</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 24AWG</td>
<td>5 × 2 × 0.25 + 2 × 0.5</td>
<td>5 × 0.14 + 2 × 0.5</td>
<td>5 × 2 × 0.14 + 2 × 0.18</td>
<td>10 × 2 × 24 AWG</td>
</tr>
<tr>
<td>70388719</td>
<td>4 × (2 × 0.14) + 2 × (0.5)</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.18 + 2 × 0.22</td>
<td>5 × 2 × 0.14 + 2 × 0.5</td>
<td>5 × 0.14 + 2 × 0.18 + 6 × 1</td>
<td>5 × 2 × 0.14 + 2 × 0.18</td>
<td>10 × 2 × 24 AWG</td>
</tr>
<tr>
<td>70388720</td>
<td>3 × (2 × 0.14) + 2 × (1)</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>7.6</td>
<td>6.7</td>
<td>8.7</td>
<td>9</td>
</tr>
<tr>
<td>70388721</td>
<td>4 × 2 × 0.14 + 4 × 0.5 + (4 × 0.14)</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 1</td>
<td>8.3</td>
<td>8.7</td>
<td>8.7</td>
<td>9</td>
</tr>
<tr>
<td>70388722</td>
<td>4 × (2 × 0.14) + 2 × (1)</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>70388723</td>
<td>5 × 2 × 0.14 + 4 × 0.5 + (4 × 0.14)</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>70388724</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.25 + 2 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>70388725</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>70388726</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td>70388727</td>
<td>3 × 2 × 24AWG</td>
<td>3 × 2 × 24AWG</td>
<td>3 × 2 × 24AWG</td>
<td>3 × 2 × 24AWG</td>
<td>3 × 2 × 24AWG</td>
<td>3 × 2 × 24AWG</td>
<td>3 × 2 × 24AWG</td>
</tr>
<tr>
<td>70388728</td>
<td>5 × 2 × 0.14 + 2 × 0.5</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
</tr>
<tr>
<td>70388729</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
</tr>
<tr>
<td>70388730</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
<td>0.5 + 2 × 0.14 + 2 × 0.18</td>
</tr>
<tr>
<td>70388731</td>
<td>2 × 0.5 + 4 × 0.22</td>
<td>2 × 0.5 + 4 × 0.22</td>
<td>2 × 0.5 + 4 × 0.22</td>
<td>2 × 0.5 + 4 × 0.22</td>
<td>2 × 0.5 + 4 × 0.22</td>
<td>2 × 0.5 + 4 × 0.22</td>
<td>2 × 0.5 + 4 × 0.22</td>
</tr>
<tr>
<td>70388732</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
</tr>
<tr>
<td>70388733</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
<td>3 × 2 × 0.18 + 6 × 0.5</td>
</tr>
<tr>
<td>70388734</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
<td>5 × 2 × 0.18 + 6 × 0.5</td>
</tr>
<tr>
<td>70388735</td>
<td>10 × 2 × 24 AWG</td>
<td>10 × 2 × 24 AWG</td>
<td>10 × 2 × 24 AWG</td>
<td>10 × 2 × 24 AWG</td>
<td>10 × 2 × 24 AWG</td>
<td>10 × 2 × 24 AWG</td>
<td>10 × 2 × 24 AWG</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 × 500 m drum or 5 × 100 m coils).

The drive systems (Heidenhain, Elau, KEB, Controles Techniques, Berger Lahr, B & R, Fanuc) are registered trademarks that are listed for comparison purposes only.

DESINA® is a registered trademark of the German Machine Tool Builders’ Association.

Cables for power chain use should only be handled on drums prior to installation.

Article numbers refer to genuine Lapp products.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Power and control cables

Power chain applications • Servo applications - power drive systems, certified

ÖLFLEX® SERVO FD 7DSL
Low capacitive hybrid servo cable with PUR outer sheath for highly dynamic power chain application - certified

Benefits
- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Only one connection line between drive and motor-feedback system. Instead of the encoder cable an integrated DSL pair takes over the signalling.
- Less cables and reduced connection costs
- Space and weight savings thanks to hybrid cable design
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media

Application range
- Power drive systems in automation engineering
- Connecting cable between servo controller and motor
- In power chains or moving machine parts
- For use in assembling & pick-and-place machinery
- Particularly in wet areas of machine tools and transfer lines

Product features
- Maximum DSL transmission length: 100 m
- Flammability: UL/CSA: VW-1, FT1
- IEC/EN: 60332-1-2
- Halogen-free materials
- Low-capacitance design
- Oil-resistant

Norm references / Approvals
- UL AWM Style 21223
cRU AWM I/II A/B FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Extra-fine-wire, bare copper conductor (power cores and control pair) and 19-wire, tinned copper conductor (signal pair)
- Core insulation: polypropylene (PP)
- Individual design depending on the item: power cores without or with one screened control pair and one DSL signal pair twisted together
- Non-woven wrapping
- Tinned-copper braiding
- PUR outer sheath, orange (RAL 2003)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000104</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Control cable</td>
</tr>
</tbody>
</table>

Core identification code
- Power cores: black with marking U/L1/C/L+; V/L2; W/L3/D /L-; GN/YE
- Core insulation: polypropylene (PP)
- Individual design depending on the item: power cores without or with one screened control pair and one DSL signal pair twisted together
- Non-woven wrapping
- Tinned-copper braiding
- PUR outer sheath, orange (RAL 2003)

Conductor stranding
- Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- DSL pair: 19-wired

Minimum bending radius
- Flexing: from 7.5 × outer diameter
- Fixed installation: 5 × outer diameter

Nominal voltage
- Power and control: IEC: U0/U: 600/1000 V
- UL: 1000 V
- Signal pair: 300 V

Test voltage
- Power and control: 4 kV
- Signal pair: 1kV

Protective conductor
- G = with GN-YE protective conductor

Bending cycles & operation parameters
- See Selection Table A2-1 in the appendix of our online catalogue

Temperature range
- Flexing: -40°C to +90°C
- (UL: +80°C)
- Fixed installation: -50°C to +90°C
- (UL: +80°C)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1023275</td>
<td>4 G 1.5 + (2 × 22AWG)</td>
<td>11.2</td>
<td>115</td>
<td>198</td>
</tr>
<tr>
<td>1023276</td>
<td>4 G 2.5 + (2 × 22AWG)</td>
<td>12.6</td>
<td>160</td>
<td>269</td>
</tr>
<tr>
<td>1023277</td>
<td>4 G 4 + (2 × 22AWG)</td>
<td>14</td>
<td>218</td>
<td>343</td>
</tr>
<tr>
<td>1023274</td>
<td>4 G 1 + (2 × 0.75) + (2 × 22AWG)</td>
<td>11.8</td>
<td>133</td>
<td>202</td>
</tr>
<tr>
<td>1023278</td>
<td>4 G 1.5 + (2 × 1) + (2 × 22AWG)</td>
<td>13.2</td>
<td>152</td>
<td>254</td>
</tr>
<tr>
<td>1023279</td>
<td>4 G 2.5 + (2 × 1) + (2 × 22AWG)</td>
<td>14</td>
<td>195</td>
<td>313</td>
</tr>
<tr>
<td>1023280</td>
<td>4 G 4 + (2 × 1) + (2 × 22AWG)</td>
<td>15.8</td>
<td>268</td>
<td>407</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

For current information see: www.lappgroup.com
## Power and control cables

### Power chain applications • Various applications

---

**ÖLFLEX® CLASSIC FD 810**

Highly flexible control cable with PVC core insulation and PVC sheath

---

### Technical data

- **Core identification code**: Black with white numbers acc. to VDE 0293-1
- **Conductor stranding**: Extra-fine wire according to VDE 0245, class 6/IEC 60228 class 6
- **Minimum bending radius**: Flexing: up from 7.5 × outer diameter Fixed installation: 4 × outer diameter
- **Nominal voltage**: U6/U: 300/500 V
- **Bending cycles & operation parameters**: See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**: 4000 V
- **Protective conductor**: G = with GN-YE protective conductor X = without protective conductor
- **Temperature range**: Flexing: 0°C to +70°C Fixed installation: -40°C to +80°C

---

### Product Make-up

- **Extra-fine wire strand made of bare copper wires (class 6)**
- **Core insulation**: PVC
- **Cores twisted in layers in short lay lengths**
- **Non-woven wrapping**
- **PVC outer sheath, grey (similar RAL 7001)**

---

### Core Line Performance - Medium to increased travel lengths or acceleration
- For various applications
- Good combination of quality and price
- Low particle emission at moved chain application

---

### Further details

- **Photographs and graphics are not to scale and do not represent detailed images of the respective products.**
- **Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).**
- **Copper price basis**: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
- **Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.**
- **Detailed values (e.g. tolerances) are available upon request.**
- **For current information see: www.lappgroup.com**

---

### Table: Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores per conductor and mm²</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026100</td>
<td>2 X 0.5</td>
<td>5.3</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>0026101</td>
<td>3 G 0.5</td>
<td>5.7</td>
<td>10</td>
<td>48</td>
</tr>
<tr>
<td>0026102</td>
<td>4 G 0.5</td>
<td>6.3</td>
<td>10</td>
<td>58</td>
</tr>
<tr>
<td>0026103</td>
<td>5 G 0.5</td>
<td>6.8</td>
<td>10</td>
<td>67</td>
</tr>
<tr>
<td>0026104</td>
<td>7 G 0.5</td>
<td>8</td>
<td>10</td>
<td>88</td>
</tr>
<tr>
<td>0026105</td>
<td>12 G 0.5</td>
<td>9.5</td>
<td>10</td>
<td>136</td>
</tr>
<tr>
<td>0026106</td>
<td>18 G 0.5</td>
<td>11.4</td>
<td>10</td>
<td>195</td>
</tr>
<tr>
<td>0026107</td>
<td>25 G 0.5</td>
<td>13.7</td>
<td>10</td>
<td>274</td>
</tr>
<tr>
<td>0026108</td>
<td>30 G 0.5</td>
<td>14.3</td>
<td>10</td>
<td>312</td>
</tr>
<tr>
<td>0026109</td>
<td>34 G 0.5</td>
<td>15.6</td>
<td>10</td>
<td>359</td>
</tr>
<tr>
<td>0026110</td>
<td>50 G 0.5</td>
<td>18.5</td>
<td>10</td>
<td>515</td>
</tr>
<tr>
<td>0026111</td>
<td>2 X 0.75</td>
<td>5.7</td>
<td>10</td>
<td>49</td>
</tr>
<tr>
<td>0026112</td>
<td>3 G 0.75</td>
<td>6.2</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>0026113</td>
<td>4 G 0.75</td>
<td>6.8</td>
<td>10</td>
<td>73</td>
</tr>
<tr>
<td>0026114</td>
<td>5 G 0.75</td>
<td>7.4</td>
<td>10</td>
<td>86</td>
</tr>
<tr>
<td>0026115</td>
<td>7 G 0.75</td>
<td>8.9</td>
<td>10</td>
<td>117</td>
</tr>
<tr>
<td>0026116</td>
<td>12 G 0.75</td>
<td>10.6</td>
<td>10</td>
<td>181</td>
</tr>
<tr>
<td>0026117</td>
<td>16 G 0.75</td>
<td>12</td>
<td>10</td>
<td>234</td>
</tr>
<tr>
<td>0026118</td>
<td>18 G 0.75</td>
<td>12.7</td>
<td>10</td>
<td>259</td>
</tr>
<tr>
<td>0026119</td>
<td>25 G 0.75</td>
<td>15.2</td>
<td>10</td>
<td>363</td>
</tr>
<tr>
<td>0026120</td>
<td>30 G 0.75</td>
<td>16.7</td>
<td>10</td>
<td>444</td>
</tr>
<tr>
<td>0026121</td>
<td>35 G 0.75</td>
<td>18</td>
<td>10</td>
<td>527</td>
</tr>
<tr>
<td>0026122</td>
<td>41 G 0.75</td>
<td>20</td>
<td>10</td>
<td>610</td>
</tr>
<tr>
<td>0026123</td>
<td>46 G 0.75</td>
<td>22</td>
<td>10</td>
<td>703</td>
</tr>
<tr>
<td>0026124</td>
<td>50 G 0.75</td>
<td>24</td>
<td>10</td>
<td>796</td>
</tr>
<tr>
<td>0026125</td>
<td>55 G 0.75</td>
<td>26</td>
<td>10</td>
<td>915</td>
</tr>
<tr>
<td>0026126</td>
<td>60 G 0.75</td>
<td>28</td>
<td>10</td>
<td>1032</td>
</tr>
<tr>
<td>0026127</td>
<td>65 G 0.75</td>
<td>30.5</td>
<td>10</td>
<td>1150</td>
</tr>
<tr>
<td>0026128</td>
<td>70 G 0.75</td>
<td>33</td>
<td>10</td>
<td>1273</td>
</tr>
<tr>
<td>0026129</td>
<td>75 G 0.75</td>
<td>35</td>
<td>10</td>
<td>1396</td>
</tr>
<tr>
<td>0026130</td>
<td>80 G 0.75</td>
<td>37</td>
<td>10</td>
<td>1520</td>
</tr>
<tr>
<td>0026131</td>
<td>85 G 0.75</td>
<td>39</td>
<td>10</td>
<td>1643</td>
</tr>
<tr>
<td>0026132</td>
<td>90 G 0.75</td>
<td>42</td>
<td>10</td>
<td>1766</td>
</tr>
<tr>
<td>0026133</td>
<td>95 G 0.75</td>
<td>44</td>
<td>10</td>
<td>1889</td>
</tr>
<tr>
<td>0026134</td>
<td>100 G 0.75</td>
<td>47</td>
<td>10</td>
<td>2012</td>
</tr>
<tr>
<td>0026135</td>
<td>105 G 0.75</td>
<td>49.5</td>
<td>10</td>
<td>2135</td>
</tr>
<tr>
<td>0026136</td>
<td>110 G 0.75</td>
<td>52</td>
<td>10</td>
<td>2258</td>
</tr>
<tr>
<td>0026137</td>
<td>115 G 0.75</td>
<td>54.5</td>
<td>10</td>
<td>2381</td>
</tr>
<tr>
<td>0026138</td>
<td>120 G 0.75</td>
<td>57</td>
<td>10</td>
<td>2504</td>
</tr>
<tr>
<td>0026139</td>
<td>125 G 0.75</td>
<td>59.5</td>
<td>10</td>
<td>2627</td>
</tr>
<tr>
<td>0026140</td>
<td>130 G 0.75</td>
<td>62</td>
<td>10</td>
<td>2750</td>
</tr>
</tbody>
</table>

---

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com

---

277
### Technical data

- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- **Core identification code**
  - Black with white numbers according to VDE 0293-1
- **Conductor stranding**
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- **Minimum bending radius**
  - Flexing: up from 7.5 x outer diameter
  - Fixed installation: 4 x outer diameter
- **Nominal voltage**
  - U0/U: 300/500 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 4000 V
- **Protective conductor**
  - G = with GN-YE protective conductor
  - X = without protective conductor
- **Temperature range**
  - Flexing: 0°C to +70°C
  - Fixed installation: -40°C to +80°C

---

**Power chain applications**

- Various applications

---

**ÖLFLEX® CLASSIC FD 810 CY**

Highly flexible, screened control cable with PVC core insulation and PVC inner and outer sheath

---

#### Benefits

- Well-proven and reliable
- For various applications
- Good combination of quality and price
- Additional robustness thanks to inner sheath
- Copper screening complies with EMC requirements and protects against electromagnetic interference

---

#### Application range

- In power chains or moving machine parts
- Suitable for use in measuring, control and regulating circuits
- Power circuits for electrical equipments used in automation engineering
- Assembly lines, production lines, in all kinds of machines
- Only for outdoor use within the indicated operating temperature range, with UV-protection

---

#### Product features

- Flame-retardant according IEC 60332-1-2
- Low-adhesive surface
- EMC-compliant

---

#### Norm references / Approvals

- Core and outer sheath based on VDE 0245/0285
- For use in power chains: Please comply with assembly guideline Appendix T3

---

#### Product Make-up

- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: PVC
- Cores twisted in layers in short lay lengths
- PVC inner sheath, grey
- Tinned-copper braiding
- Non-woven wrapping
- PVC outer sheath, grey (similar RAL 7001)

---

### Table: Technical Data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026200</td>
<td>2 G 0.5</td>
<td>6.9</td>
<td>33</td>
<td>74</td>
</tr>
<tr>
<td>0026201</td>
<td>3 G 0.5</td>
<td>7.3</td>
<td>39</td>
<td>84</td>
</tr>
<tr>
<td>0026202</td>
<td>4 G 0.5</td>
<td>7.9</td>
<td>46</td>
<td>98</td>
</tr>
<tr>
<td>0026203</td>
<td>5 G 0.5</td>
<td>8.4</td>
<td>54</td>
<td>110</td>
</tr>
<tr>
<td>0026204</td>
<td>7 G 0.5</td>
<td>9.8</td>
<td>70</td>
<td>143</td>
</tr>
<tr>
<td>0026205</td>
<td>12 G 0.5</td>
<td>11.3</td>
<td>100</td>
<td>201</td>
</tr>
<tr>
<td>0026206</td>
<td>18 G 0.5</td>
<td>13.4</td>
<td>153</td>
<td>287</td>
</tr>
<tr>
<td>0026207</td>
<td>25 G 0.5</td>
<td>15.9</td>
<td>202</td>
<td>394</td>
</tr>
<tr>
<td>0026208</td>
<td>30 G 0.5</td>
<td>16.5</td>
<td>228</td>
<td>432</td>
</tr>
<tr>
<td>0026219</td>
<td>2 X 0.75</td>
<td>7.3</td>
<td>39</td>
<td>85</td>
</tr>
<tr>
<td>0026220</td>
<td>3 X 0.75</td>
<td>7.8</td>
<td>48</td>
<td>99</td>
</tr>
<tr>
<td>0026221</td>
<td>4 X 0.75</td>
<td>8.4</td>
<td>59</td>
<td>116</td>
</tr>
<tr>
<td>0026222</td>
<td>5 G 0.75</td>
<td>9</td>
<td>69</td>
<td>133</td>
</tr>
<tr>
<td>0026223</td>
<td>7 G 0.75</td>
<td>10.7</td>
<td>90</td>
<td>178</td>
</tr>
<tr>
<td>0026224</td>
<td>12 G 0.75</td>
<td>12.4</td>
<td>129</td>
<td>253</td>
</tr>
<tr>
<td>0026226</td>
<td>18 G 0.75</td>
<td>14.9</td>
<td>205</td>
<td>366</td>
</tr>
<tr>
<td>0026227</td>
<td>25 G 0.75</td>
<td>17.4</td>
<td>271</td>
<td>496</td>
</tr>
<tr>
<td>0026229</td>
<td>30 G 0.75</td>
<td>18</td>
<td>320</td>
<td>549</td>
</tr>
<tr>
<td>0026230</td>
<td>2 X 1.0</td>
<td>7.7</td>
<td>46</td>
<td>97</td>
</tr>
<tr>
<td>0026231</td>
<td>3 G 1.0</td>
<td>8.2</td>
<td>57</td>
<td>114</td>
</tr>
<tr>
<td>0026232</td>
<td>4 G 1.0</td>
<td>8.9</td>
<td>70</td>
<td>134</td>
</tr>
<tr>
<td>0026233</td>
<td>5 G 1.0</td>
<td>9.8</td>
<td>81</td>
<td>159</td>
</tr>
<tr>
<td>0026234</td>
<td>7 G 1.0</td>
<td>11.4</td>
<td>110</td>
<td>207</td>
</tr>
<tr>
<td>0026235</td>
<td>12 G 1.0</td>
<td>13.4</td>
<td>182</td>
<td>314</td>
</tr>
</tbody>
</table>

---

**Article number**

- For current information see: www.lappgroup.com

---

### Further information

- Core Line Performance - Medium to increased travel lengths or acceleration
- The classic for multi-functional use
- EMC-compliant

---

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
**ÖLFLEX® CHAIN 809 SC**

Highly flexible, single core cable with PVC insulation and PVC sheath - certified for North America

### Product features
- Flammability: UL/CSA: VW-1, FT1
- IEC/EN: 60332-1-2
- Oil-resistant according to DIN EN 50290-2-22 (TM54)
- Low-adhesive surface

### Norm references / Approvals
- Based on VDE 0250 / 0285
- UL-AWM-Style 10107
cRU AWM II A/B FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

### Product make-up
- Fine-wire, bare copper conductor
- Core insulation: PVC
- PVC outer sheath, black (similar RAL 9005)

### Technical data
- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000057
  - ETIM 5.0/6.0 Class-Description: Low voltage power cable
- **Core identification code**
  - Black or green-yellow, other colours available on request
- **Conductor stranding**
  - Fine wire according to VDE 0295, Class 5
  - IEC 60228, Class 5
- **Torsion movement in WTG**
  - TW-0 & TW-1, refer to Appendix T0
- **Minimum bending radius**
  - Flexing: up from 10 x outer diameter
  - Fixed installation: 4 x outer diameter
- **Nominal voltage**
  - IEC: U0/U 600/1000 V
  - UL & CSA: 600 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 4000 V
- **Temperature range**
  - Flexing: 0°C to +70°C (UL: +90°C)
  - Fixed installation: -40°C to +70°C (UL: +90°C)

### Article number

<table>
<thead>
<tr>
<th>Article number</th>
<th>Conductor cross-section (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Core colour</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1062900</td>
<td>6</td>
<td>7.4</td>
<td>green-yellow</td>
<td>57.6</td>
<td>101</td>
</tr>
<tr>
<td>1062901</td>
<td>6</td>
<td>7.4</td>
<td>black</td>
<td>57.6</td>
<td>101</td>
</tr>
<tr>
<td>1062902</td>
<td>10</td>
<td>9</td>
<td>green-yellow</td>
<td>96</td>
<td>158</td>
</tr>
<tr>
<td>1062903</td>
<td>10</td>
<td>9</td>
<td>black</td>
<td>96</td>
<td>158</td>
</tr>
<tr>
<td>1062904</td>
<td>16</td>
<td>9.9</td>
<td>green-yellow</td>
<td>153.6</td>
<td>217</td>
</tr>
<tr>
<td>1062905</td>
<td>16</td>
<td>9.9</td>
<td>black</td>
<td>153.6</td>
<td>217</td>
</tr>
<tr>
<td>1062906</td>
<td>25</td>
<td>11.3</td>
<td>green-yellow</td>
<td>240</td>
<td>307</td>
</tr>
<tr>
<td>1062907</td>
<td>25</td>
<td>11.3</td>
<td>black</td>
<td>240</td>
<td>307</td>
</tr>
<tr>
<td>1062908</td>
<td>35</td>
<td>13.1</td>
<td>green-yellow</td>
<td>336</td>
<td>427</td>
</tr>
<tr>
<td>1062909</td>
<td>35</td>
<td>13.1</td>
<td>black</td>
<td>336</td>
<td>427</td>
</tr>
<tr>
<td>1062910</td>
<td>50</td>
<td>15.9</td>
<td>green-yellow</td>
<td>480</td>
<td>611</td>
</tr>
<tr>
<td>1062911</td>
<td>50</td>
<td>15.9</td>
<td>black</td>
<td>480</td>
<td>611</td>
</tr>
<tr>
<td>1062912</td>
<td>70</td>
<td>17.6</td>
<td>green-yellow</td>
<td>672</td>
<td>778</td>
</tr>
<tr>
<td>1062913</td>
<td>70</td>
<td>17.6</td>
<td>black</td>
<td>672</td>
<td>778</td>
</tr>
<tr>
<td>1062914</td>
<td>95</td>
<td>19.8</td>
<td>green-yellow</td>
<td>912</td>
<td>1015</td>
</tr>
<tr>
<td>1062915</td>
<td>95</td>
<td>19.8</td>
<td>black</td>
<td>912</td>
<td>1015</td>
</tr>
<tr>
<td>1062916</td>
<td>120</td>
<td>23</td>
<td>green-yellow</td>
<td>1152</td>
<td>1296</td>
</tr>
<tr>
<td>1062917</td>
<td>120</td>
<td>23</td>
<td>black</td>
<td>1152</td>
<td>1296</td>
</tr>
<tr>
<td>1062918</td>
<td>150</td>
<td>24.8</td>
<td>green-yellow</td>
<td>1440</td>
<td>1597</td>
</tr>
<tr>
<td>1062919</td>
<td>150</td>
<td>24.8</td>
<td>black</td>
<td>1440</td>
<td>1597</td>
</tr>
<tr>
<td>1062920</td>
<td>185</td>
<td>27.1</td>
<td>green-yellow</td>
<td>1776</td>
<td>1971</td>
</tr>
<tr>
<td>1062921</td>
<td>185</td>
<td>27.1</td>
<td>black</td>
<td>1776</td>
<td>1971</td>
</tr>
<tr>
<td>1062922</td>
<td>240</td>
<td>30.6</td>
<td>green-yellow</td>
<td>2304</td>
<td>2419</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

### Copper price basis
- EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

### Packaging and delivery
- Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).
- For current information see: www.lappgroup.com
Power and control cables

Power chain applications • Various applications, certified

ÖLFLEX® CHAIN 809 SC CY
Highly flexible, screened single core cable with PVC insulation and PVC sheath - certified for North America

Info
- Basic Line Performance - Moderate travel lengths or acceleration
- AWM certification for USA and Canada
- EMC compliant copper screening

Benefits
- Multi-standard certification reduces part varieties and saves costs
- Multifunctional application possibilities
- Under consideration of the temperature range also suitable for flexible outdoor use
- Copper braiding screens the cable against electromagnetic interference
- Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
- In power chains or moving machine parts
- For internal wiring of electric and electronic equipment in switch cabinets
- Specially designed for power circuits of servomotors driven by frequency converters
- This cable can substitute screened multi-core motor cables where space requirements or minimum bending radius cause problems
- Test systems in the automotive industry, vehicles and stationary fuel cell systems

Product features
- Flammability: UL/CSA: VW-1, FT1
- Oil-resistant according to DIN EN 50290-2-22 (TM54)
- Low-adhesive surface
- EMC-compliant copper screening

Norm references / Approvals
- Based on VDE 0250 / 0285
- UL-AWM-Style 10107 cRU AWM II A/B FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Fine-wire, bare copper conductor
- Core insulation: PVC
- Non-woven wrapping
- Tinned-copper braiding
- Non-woven wrapping
- PVC outer sheath, black (similar RAL 9005)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000057
  ETIM 5.0/6.0 Class Description: Low voltage power cable
- Core identification code
  Black, other colours are available upon request
- Conductor stranding
  Fine wire according to VDE 0295, Class 5
- Minimum bending radius
  Flexing: up from 10 × outer diameter
  Fixed installation: 4 × outer diameter
- Nominal voltage
  IEC: U0/U 600/1000 V
  UL & CSA: 600 V
- Bending cycles & operation parameters
  See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage
  4000 V
- Temperature range
  Flexing: 0°C to +70°C (UL: +90°C)
  Fixed installation: -40°C to +70°C (UL: +90°C)

Article number | Conductor cross-section (mm²) | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km)
---|---|---|---|---
1062940 | 6 | 8.1 | 76 | 126
1062941 | 10 | 9.7 | 122 | 190
1062942 | 16 | 10.6 | 180 | 250
1062943 | 25 | 12 | 268 | 351
1062944 | 35 | 14.8 | 392 | 519
1062945 | 50 | 16.8 | 544 | 686
1062946 | 70 | 18.5 | 766 | 885
1062947 | 95 | 20.9 | 1020 | 1135
1062948 | 120 | 24.1 | 1272 | 1443
1062949 | 150 | 26.1 | 1593 | 1788
1062950 | 185 | 28.4 | 1941 | 2177
1062951 | 240 | 31.9 | 2518 | 2671

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
ÖLFLEX® FD 90

Highly flexible, single core cable with PVC insulation and PVC sheath - certified for North America

**Product features**
- Flame-retardant according to IEC 60332-1-2 & CSA FT1
- High oil-resistance
- Low-adhesive surface

**Norm references / Approvals**
- Based on VDE 0250 / 0285
- UL-AWM-Style 10107, cRM AWM II A/B FT1 ≥150mm²
- CSA AWM IA/B IIA/B FT 1 ≤ 120 mm²
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

**Product Make-up**
- Extra-fine wire strand made of bare copper wires (class 6)
- Non-woven wrapping
- Core insulation: PVC
- PVC outer sheath, black (similar RAL 9005)

**Technical data**
- **Classification ETIM 5/6 ETIM 5.0/6.0 Class-ID: EC000057 ETIM 5.0/6.0 Class-Description: Low voltage power cable**
- **Core identification code**
  - Black or green-yellow, other colours available on request
- **Conductor stranding**
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- **Minimum bending radius**
  - Flexing: up from 7.5 × outer diameter
  - Fixed installation: 3 × outer diameter
- **Nominal voltage**
  - IEC: U0/U 600/1000 V
  - UL & CSA: 600 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 4000 V
- **Temperature range**
  - Flexing: -5°C to +70°C (UL: +90°C)
  - Fixed installation: -40°C to +70°C (UL: +90°C)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Conductor cross-section (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Core colour</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026600</td>
<td>10</td>
<td>9</td>
<td>green-yellow</td>
<td>96</td>
<td>176</td>
</tr>
<tr>
<td>0026601</td>
<td>10</td>
<td>9</td>
<td>black</td>
<td>96</td>
<td>176</td>
</tr>
<tr>
<td>0026603</td>
<td>16</td>
<td>10.5</td>
<td>green-yellow</td>
<td>153.6</td>
<td>240</td>
</tr>
<tr>
<td>0026604</td>
<td>16</td>
<td>10.5</td>
<td>black</td>
<td>153.6</td>
<td>240</td>
</tr>
<tr>
<td>0026607</td>
<td>25</td>
<td>11.8</td>
<td>green-yellow</td>
<td>240</td>
<td>361</td>
</tr>
<tr>
<td>0026608</td>
<td>25</td>
<td>11.8</td>
<td>black</td>
<td>240</td>
<td>361</td>
</tr>
<tr>
<td>0026610</td>
<td>35</td>
<td>14.2</td>
<td>green-yellow</td>
<td>336</td>
<td>482</td>
</tr>
<tr>
<td>0026611</td>
<td>35</td>
<td>14.2</td>
<td>black</td>
<td>336</td>
<td>482</td>
</tr>
<tr>
<td>0026613</td>
<td>50</td>
<td>16.2</td>
<td>green-yellow</td>
<td>480</td>
<td>660</td>
</tr>
<tr>
<td>0026614</td>
<td>50</td>
<td>16.2</td>
<td>black</td>
<td>480</td>
<td>660</td>
</tr>
<tr>
<td>0026616</td>
<td>70</td>
<td>18.3</td>
<td>green-yellow</td>
<td>672</td>
<td>898</td>
</tr>
<tr>
<td>0026617</td>
<td>70</td>
<td>18.3</td>
<td>black</td>
<td>672</td>
<td>898</td>
</tr>
<tr>
<td>0026619</td>
<td>95</td>
<td>19.8</td>
<td>green-yellow</td>
<td>912</td>
<td>1179</td>
</tr>
<tr>
<td>0026620</td>
<td>95</td>
<td>19.8</td>
<td>black</td>
<td>912</td>
<td>1179</td>
</tr>
<tr>
<td>0026622</td>
<td>120</td>
<td>23.4</td>
<td>green-yellow</td>
<td>1152</td>
<td>1521</td>
</tr>
<tr>
<td>0026623</td>
<td>120</td>
<td>23.4</td>
<td>black</td>
<td>1152</td>
<td>1521</td>
</tr>
<tr>
<td>0026625</td>
<td>150</td>
<td>25.1</td>
<td>green-yellow</td>
<td>1440</td>
<td>1739</td>
</tr>
<tr>
<td>0026626</td>
<td>150</td>
<td>25.1</td>
<td>black</td>
<td>1440</td>
<td>1739</td>
</tr>
<tr>
<td>0026628</td>
<td>185</td>
<td>28.1</td>
<td>green-yellow</td>
<td>1776</td>
<td>2305</td>
</tr>
<tr>
<td>0026629</td>
<td>185</td>
<td>28.1</td>
<td>black</td>
<td>1776</td>
<td>2305</td>
</tr>
<tr>
<td>0026634</td>
<td>240</td>
<td>31.6</td>
<td>green-yellow</td>
<td>2304</td>
<td>2944</td>
</tr>
<tr>
<td>0026635</td>
<td>240</td>
<td>31.6</td>
<td>black</td>
<td>2304</td>
<td>2944</td>
</tr>
<tr>
<td>0026640</td>
<td>300</td>
<td>33.5</td>
<td>green-yellow</td>
<td>2880</td>
<td>3545</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Power and control cables

Power chain applications • Various applications, certified

ÖLFLEX® FD 90 CY
Highly flexible, screened single core cable with PVC insulation and PVC sheath - certified for North America

Benefits
• Multi-standard certification reduces part varieties and saves costs
• For various applications
• Also suitable for fixed installation where space is limited
• Copper screening complies with EMC requirements and protects against electromagnetic interference
• Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
• In power chains or moving machine parts
• For internal wiring of electric and electronic equipment in switch cabinets
• Specially designed for power circuits of servomotors driven by frequency converters
• This cable can substitute screened multi-core motor cables where space requirements or minimum bending radii cause problems
• Test systems in the automotive industry, vehicles and stationary fuel cell systems

Product features
• Flame-retardant according to IEC 60332-1-2 & CSA FT1
• High oil-resistance
• Low-adhesive surface
• EMC-compliant

Norm references / Approvals
• Based on VDE 0250 / 0285
• UL-AWM-Style 10107, CRU AWM II A/B FT1 ≥150mm²
• CSA AWM IA/B II/A/B FT 1 ≤ 120 mm²
• UL File No. E63634
• For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
• Extra-fine wire strand made of bare copper wires (class 6)
• Non-woven wrapping
• Core insulation: PVC
• Tinned-copper braiding
• PVC outer sheath, orange (similar RAL 2003)

Technical data
Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000057
ETIM 5.0/6.0 Class-Description: Low voltage power cable
Core identification code
Black, other colours are available upon request
Conductor stranding
Extra-fine wire according to VDE 0295, class 6 / IEC 60228, class 6
Minimum bending radius
Flexing: up from 7.5 × outer diameter
Fixed installation: 3 × outer diameter
Nominal voltage
IEC: U0/U 600/1000 V
UL & CSA: 600 V
Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue
Test voltage
4000 V
Temperature range
Flexing: -5°C to +70°C (UL: +90°C)
Fixed installation: -40°C to +70°C (UL: +90°C)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Conductor cross-section (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026651</td>
<td>10</td>
<td>9.7</td>
<td>127.6</td>
<td>227</td>
</tr>
<tr>
<td>0026653</td>
<td>16</td>
<td>11.2</td>
<td>186.2</td>
<td>297</td>
</tr>
<tr>
<td>0026655</td>
<td>25</td>
<td>12.5</td>
<td>257.8</td>
<td>410</td>
</tr>
<tr>
<td>0026657</td>
<td>35</td>
<td>15.1</td>
<td>400.7</td>
<td>607</td>
</tr>
<tr>
<td>0026659</td>
<td>50</td>
<td>17.1</td>
<td>554.8</td>
<td>808</td>
</tr>
<tr>
<td>0026661</td>
<td>70</td>
<td>19.4</td>
<td>775.6</td>
<td>1081</td>
</tr>
<tr>
<td>0026663</td>
<td>95</td>
<td>20.9</td>
<td>1026.1</td>
<td>1382</td>
</tr>
<tr>
<td>0026665</td>
<td>120</td>
<td>24.5</td>
<td>1282.4</td>
<td>1752</td>
</tr>
<tr>
<td>0026667</td>
<td>150</td>
<td>26.2</td>
<td>1578</td>
<td>1924</td>
</tr>
<tr>
<td>0026669</td>
<td>185</td>
<td>29.2</td>
<td>1935</td>
<td>2411</td>
</tr>
<tr>
<td>0026671</td>
<td>240</td>
<td>32.9</td>
<td>2526</td>
<td>3372</td>
</tr>
<tr>
<td>0026673</td>
<td>300</td>
<td>34.8</td>
<td>3128.8</td>
<td>4105</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

DESINA® is a registered trademark of the German Machine Tool Builders’ Association
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Highly flexible control cable with PVC core insulation and PVC sheath – certified for North America

Benefits
- Good combination of quality and price
- Multi-standard certification reduces part varieties and saves costs
- Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
- In power chains or moving machine parts
- Suitable for use in measuring, control and regulating circuits
- Wiring of machines, tools, devices, appliances and control cabinets
- Assembly lines, production lines, in all kinds of machines

Product features
- Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)
- Flammability: UL/CSA: VW-1, FT1

Norm references / Approvals
- UL AWM Style 20886
- CUL AWM II A/B FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000104
  ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  Black with white numbers according to VDE 0293-1
- Conductor stranding
  Fine wire according to VDE 0295, Class 5/IEC 60228, Class 5
- Torsion movement in WTG
  TW-0 & TW-1, refer to Appendix T0
- Minimum bending radius
  Flexing: up to 10 × outer diameter
  Fixed installation: 4 × outer diameter
- Nominal voltage
  VDE: U0/U: 300/500 V
  UL & CSA: 1000 V

Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue

Test voltage
4000 V

Protective conductor
G = with GN-YE protective conductor
X = without protective conductor

Temperature range
Flexing: 0°C to +70°C
(UL/CSA: +80°C)
Fixed installation: -40°C to +70°C
(UL/CSA: +80°C)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1026700</td>
<td>2 X 0.5</td>
<td>5.2</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>1026701</td>
<td>3 G 0.5</td>
<td>5.5</td>
<td>15</td>
<td>48</td>
</tr>
<tr>
<td>1026702</td>
<td>4 G 0.5</td>
<td>6.5</td>
<td>20</td>
<td>58</td>
</tr>
<tr>
<td>1026703</td>
<td>5 G 0.5</td>
<td>7.7</td>
<td>24</td>
<td>67</td>
</tr>
<tr>
<td>1026704</td>
<td>6 G 0.5</td>
<td>9.2</td>
<td>34</td>
<td>88</td>
</tr>
<tr>
<td>1026705</td>
<td>12 G 0.5</td>
<td>9.2</td>
<td>58</td>
<td>136</td>
</tr>
<tr>
<td>1026706</td>
<td>18 G 0.5</td>
<td>11</td>
<td>87</td>
<td>195</td>
</tr>
<tr>
<td>1026707</td>
<td>25 G 0.5</td>
<td>13.3</td>
<td>120</td>
<td>274</td>
</tr>
<tr>
<td>1026708</td>
<td>2 X 0.75</td>
<td>5.6</td>
<td>15</td>
<td>49</td>
</tr>
<tr>
<td>1026709</td>
<td>3 G 0.75</td>
<td>6</td>
<td>22</td>
<td>60</td>
</tr>
<tr>
<td>1026710</td>
<td>4 G 0.75</td>
<td>6.5</td>
<td>29</td>
<td>73</td>
</tr>
<tr>
<td>1026711</td>
<td>5 G 0.75</td>
<td>7.1</td>
<td>37</td>
<td>86</td>
</tr>
<tr>
<td>1026712</td>
<td>7 G 0.75</td>
<td>8.5</td>
<td>51</td>
<td>117</td>
</tr>
<tr>
<td>1026713</td>
<td>12 G 0.75</td>
<td>10.3</td>
<td>87</td>
<td>181</td>
</tr>
<tr>
<td>1026714</td>
<td>18 G 0.75</td>
<td>12.2</td>
<td>130</td>
<td>259</td>
</tr>
<tr>
<td>1026715</td>
<td>25 G 0.75</td>
<td>14.8</td>
<td>181</td>
<td>333</td>
</tr>
<tr>
<td>1026716</td>
<td>2 X 1</td>
<td>5.9</td>
<td>19</td>
<td>58</td>
</tr>
<tr>
<td>1026717</td>
<td>3 G 1</td>
<td>6.3</td>
<td>29</td>
<td>72</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

For current information see: www.lappgroup.com
ÖLFLEX® CHAIN 809 CY

Highly flexible, screened control cable with PVC core insulation and PVC sheath - certified for North America

**Benefits**
- Good combination of quality and price
- Thin and light, without inner sheath
- Multi-standard certification reduces part varieties and saves costs
- Certified for the USA and Canada
- Copper screening complies with EMC requirements and protects against electromagnetic interference

**Application range**
- In power chains or moving machine parts
- In EMC-sensitive environments
- Suitable for use in measuring, control and regulating circuits
- Wiring of machines, tools, devices, appliances and control cabinets
- Assembly and production lines

**Product features**
- Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)
- Flammability: UL/CSA: VW-1, FT1
- EMC compliant copper screening

**Technical data**
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - Black with white numbers according to VDE 0293-1
- Nominal voltage
  - VDE: U0/U: 300/500 V
  - UL & CSA: 1000 V
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Temperature range
  - Flexing: 0°C to +70°C (UL/CSA: +80°C)
  - Fixed installation: -40°C to +70°C (UL/CSA +80°C)

**Article number**

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1026751</td>
<td>2 X 0.5</td>
<td>5.8</td>
<td>36</td>
<td>45</td>
</tr>
<tr>
<td>1026752</td>
<td>3 G 0.5</td>
<td>6.1</td>
<td>43</td>
<td>59</td>
</tr>
<tr>
<td>1026753</td>
<td>4 G 0.5</td>
<td>6.6</td>
<td>49</td>
<td>83</td>
</tr>
<tr>
<td>1026754</td>
<td>5 G 0.5</td>
<td>7.1</td>
<td>57</td>
<td>96</td>
</tr>
<tr>
<td>1026755</td>
<td>7 G 0.5</td>
<td>8.5</td>
<td>69</td>
<td>136</td>
</tr>
<tr>
<td>1026756</td>
<td>12 G 0.5</td>
<td>10</td>
<td>104</td>
<td>200</td>
</tr>
<tr>
<td>1026757</td>
<td>18 G 0.5</td>
<td>11.8</td>
<td>141</td>
<td>275</td>
</tr>
<tr>
<td>1026758</td>
<td>25 G 0.5</td>
<td>14.1</td>
<td>211</td>
<td>350</td>
</tr>
<tr>
<td>1026759</td>
<td>2 X 0.75</td>
<td>6.2</td>
<td>43</td>
<td>56</td>
</tr>
<tr>
<td>1026760</td>
<td>3 G 0.75</td>
<td>6.6</td>
<td>52</td>
<td>70</td>
</tr>
<tr>
<td>1026761</td>
<td>4 G 0.75</td>
<td>7.1</td>
<td>61</td>
<td>95</td>
</tr>
<tr>
<td>1026762</td>
<td>5 G 0.75</td>
<td>7.7</td>
<td>72</td>
<td>130</td>
</tr>
<tr>
<td>1026763</td>
<td>7 G 0.75</td>
<td>9.1</td>
<td>89</td>
<td>168</td>
</tr>
<tr>
<td>1026764</td>
<td>12 G 0.75</td>
<td>10.9</td>
<td>138</td>
<td>232</td>
</tr>
<tr>
<td>1026765</td>
<td>18 G 0.75</td>
<td>13</td>
<td>211</td>
<td>315</td>
</tr>
<tr>
<td>1026766</td>
<td>25 G 0.75</td>
<td>15.6</td>
<td>280</td>
<td>435</td>
</tr>
<tr>
<td>1026767</td>
<td>2 X 1.5</td>
<td>6.5</td>
<td>51</td>
<td>84</td>
</tr>
<tr>
<td>1026768</td>
<td>3 G 1</td>
<td>6.9</td>
<td>62</td>
<td>110</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Power and control cables
Power chain applications • Various applications, certified

ÖLFLEX® CHAIN PN
Highly flexible, PROFINET-compliant power cable - certified for North America

Info
• PROFINET-compliant design
• Basic Line for light & ordinary duty in power chain applications
• AWM certification for USA and Canada

Benefits
• Compact design
• Multi-standard certification reduces part varieties and saves costs
• Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
• In power chains or moving machine parts
• In dry, damp or wet interiors
• Suitable for use in measuring, control and regulating circuits
• Wiring of machines, tools, devices, appliances and control cabinets
• Only for outdoor use within the indicated operating temperature range, with UV-protection

Product features
• Designed for 2 million alternating bending cycles and travel distances up to 10 meter
• Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)
• Flammability: UL/CSA: VW-1, FT1
• Oil-resistant according to DIN EN 50290-2-22 (TM54)
• Low-adhesive surface

Norm references / Approvals
• UL AWM Style 20886
• UL File No. E63634
• UL AWM II A/B FT1
• UL File No. E63634: For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
• Fine-wire, bare copper strand
• Core insulation: PVC
• Cores twisted in layers
• Outer sheath: PVC, heat-resistant
• Sheath colour:
  - 4 cores: black (RAL 9005)
  - 5 cores: grey (RAL 7001)

Technical data
Core identification code
• Brown (L1), blue (N1), black (L2), white (N2)
• 5 cores: additionally grey (PE)

Conductor stranding
Fine wire according to
VDE 0295, Class 5/IEC 60228, Class 5

Torsion movement in WTG
TW-0 & TW-1, refer to Appendix T0

Minimum bending radius
For flexible use:
Chains in self-supporting non-gliding arrangements: 10 × outer diameter
In chains in gliding arrangements: 12 × outer diameter
Fixed installation: 4 × outer diameter

Nominal voltage
VDE: U0/U: 300 V
UL & CSA: 1000 V

Test voltage
1500 V

Protective conductor
G = with protective conductor grey
X = without protective conductor

Bending cycles & operation parameters
2 mio. cycles

Temperature range
Flexible: VDE 0°C to +90°C;
UL: up to +90°C
Fixed installation: VDE -40°C to +90°C;
UL/CSA: up to +90°C

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® CHAIN PN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1026791</td>
<td>4 x 0.75</td>
<td>6.5</td>
<td>29</td>
<td>73</td>
</tr>
<tr>
<td>1026792</td>
<td>5 x 0.75</td>
<td>7.1</td>
<td>37</td>
<td>86</td>
</tr>
<tr>
<td>1026793</td>
<td>4 x 1.5</td>
<td>7.6</td>
<td>58</td>
<td>114</td>
</tr>
<tr>
<td>1026794</td>
<td>5 x 1.5</td>
<td>8.5</td>
<td>72</td>
<td>139</td>
</tr>
<tr>
<td>1026795</td>
<td>4 x 2.5</td>
<td>9.3</td>
<td>96</td>
<td>179</td>
</tr>
<tr>
<td>1026796</td>
<td>5 x 2.5</td>
<td>10.4</td>
<td>120</td>
<td>214</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Power and control cables
Power chain applications • Various applications, certified

ÖLFLEX® FD 891
Highly flexible control cable with PVC core insulation and PVC sheath - certified for North America

Benefits
• Multi-standard certification reduces part varieties and saves costs
• Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers
• Under consideration of the temperature range also suitable for flexible outdoor use

Application range
• In power chains or moving machine parts
• Suitable for use in measuring, control and regulating circuits
• Assembly lines, production lines, in all kinds of machines
• Machine tools
• Plant engineering

Product features
• Flame-retardant according to IEC 60332-1-2 & CSA FT1
• Oil-resistant
• Low-adhesive surface

Norm references / Approvals
• UL AWM Style 21098
• CSA AWM IA/B, IIA/B FT 1
• UL File No. E63634
• For use in power chains: Please comply with assembly guideline Appendix T3

Product make-up
• Extra-fine wire strand made of bare copper wires (class 6)
• Core insulation: PVC
• Cores twisted in layers in short lay lengths
• Non-woven wrapping
• PVC outer sheath, black (similar RAL 9005)

Technical data
Classifiction ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000104
ETIM 5.0/6.0 Class-Description: Control cable
Core identification code
Black with white numbers according to VDE 0293-1
Conductor stranding
Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
Minimum bending radius
Flexing: up from 7.5 × outer diameter
Fixed installation: 4 × outer diameter
Nominal voltage
IEC: U0/U 300/500 V
UL/CSA: 600 V
Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue
Test voltage
4000 V
Protective conductor
G = with GN-YE protective conductor
X = without protective conductor
Temperature range
Flexing: -5°C to +70°C (UL: +90°C)
Fixed installation: -40°C to +70°C (UL: +90°C)

Article number| Number of cores and mm² per conductor| Outer diameter (mm)| Copper index (kg/km)| Weight (kg/km)
---|---|---|---|---
1026012 | 12 G 0.5 | 10.8 | 57.6 | 162
1026013 | 3 G 0.75 | 6.6 | 21.6 | 63
1026014 | 4 G 0.75 | 7.3 | 28.8 | 75
1026015 | 5 G 0.75 | 8 | 36 | 90
1026017 | 7 G 0.75 | 9.6 | 50.4 | 132
1026112 | 12 G 0.75 | 11.6 | 86.5 | 201
1026118 | 18 G 0.75 | 13.9 | 129.6 | 300
1026125 | 25 G 0.75 | 16.6 | 180 | 415
1026127 | 3 G 1 | 7.1 | 28.8 | 65
1026129 | 4 G 1 | 7.8 | 39 | 82
1026130 | 5 G 1 | 8.8 | 48 | 105
1026128 | 7 G 1 | 10.5 | 67.2 | 149
1026131 | 12 G 1 | 12.5 | 116 | 225
1026132 | 16 G 1 | 15 | 173 | 331
1026133 | 25 G 1 | 17.9 | 240 | 484
1026303 | 3 G 1.5 | 7.7 | 43.2 | 93
1026304 | 4 G 1.5 | 8.8 | 57.6 | 122
1026305 | 5 G 1.5 | 9.6 | 72 | 147
1026307 | 7 G 1.5 | 11.6 | 100.4 | 219
1026212 | 12 G 1.5 | 13.9 | 172.8 | 322
1026218 | 18 G 1.5 | 16.9 | 259.2 | 478
1026230 | 25 G 1.5 | 20.1 | 360 | 670
1026234 | 34 G 1.5 | 23.6 | 489.6 | 897
1026203 | 3 G 2.5 | 8.8 | 72 | 129
1026204 | 4 G 2.5 | 9.8 | 96 | 167
1026205 | 5 G 2.5 | 11 | 120 | 212
1026207 | 7 G 2.5 | 13.4 | 168 | 304
1026212 | 12 G 2.5 | 15.8 | 288 | 452
1026204 | 4 G 4 | 11.8 | 153.6 | 263
1026205 | 5 G 4 | 13.2 | 192 | 325
1026207 | 7 G 4 | 16.1 | 268.8 | 469
1026204 | 4 G 6 | 13.7 | 230.4 | 368
1026214 | 4 G 10 | 17.9 | 384 | 588
1026224 | 4 G 16 | 24.1 | 614.4 | 1031
1026234 | 4 G 25 | 27.9 | 960 | 1530
1026244 | 4 G 35 | 31.1 | 1344 | 1959

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).
DESINA® is a registered trademark of the German Machine Tool Builders’ Association
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
**ÖLFLEX® FD 891 CY**

Highly flexible, screened control cable with PVC insulation and PVC inner and outer sheath - certified

**Technical data**

- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- **Core identification code**
  - Black with white numbers according to VDE 0293-1
- **Conductor stranding**
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- **Minimum bending radius**
  - Flexing: up from 7.5 × outer diameter
  - Fixed installation: 4 × outer diameter
- **Nominal voltage**
  - IEC: UL/U 300/500 V
  - UL/CSA: 600 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 4000 V
- **Protective conductor**
  - G = with GN-YE protective conductor
  - X = without protective conductor
- **Temperature range**
  - Flexing: -5°C to +70°C (UL: +90°C)
  - Fixed installation: -40°C to +70°C (UL: +90°C)

**Application range**

- In power chains or moving machine parts
- Suitable for use in measuring, control and regulating circuits
- Assembly lines, production lines, in all kinds of machines
- Machine tools
- Plant engineering

**Product features**

- Flame-retardant according to IEC 60332-1-2 & CSA FT1
- Oil-resistant
- Low-adhesive surface
- EMC-compliant

**Norm references / Approvals**

- UL AWM Style 21098
- CSA AWM IA/B; IIA/B FT 1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

**Product Make-up**

- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: PVC
- Twisted cores in layers in short lay lengths
- Non-woven wrapping
- Tinned-copper braiding
- PVC outer sheath, black (similar RAL 9005)

**Benefits**

- Multi-standard certification reduces part varieties and saves costs
- Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers
- Under consideration of the temperature range also suitable for flexible outdoor use
- Copper screening complies with EMC requirements and protects against electromagnetic interference

**Info**

- Core Line Performance - Medium to increased travel lengths or acceleration
- AWM certification for USA and Canada
- EMC compliant copper screening

---

**Technical specifications**

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1027003</td>
<td>3 G 0.5</td>
<td>7.9</td>
<td>38.9</td>
<td>89</td>
</tr>
<tr>
<td>1027004</td>
<td>4 G 0.5</td>
<td>8.5</td>
<td>47.3</td>
<td>105</td>
</tr>
<tr>
<td>1027005</td>
<td>5 G 0.5</td>
<td>9.2</td>
<td>55.3</td>
<td>127</td>
</tr>
<tr>
<td>1027007</td>
<td>7 G 0.5</td>
<td>10.9</td>
<td>81.1</td>
<td>177</td>
</tr>
<tr>
<td>1027012</td>
<td>12 G 0.5</td>
<td>12.6</td>
<td>99.9</td>
<td>230</td>
</tr>
<tr>
<td>1027018</td>
<td>18 G 0.5</td>
<td>15.5</td>
<td>160.1</td>
<td>391</td>
</tr>
<tr>
<td>1027025</td>
<td>25 G 0.5</td>
<td>17.7</td>
<td>203.9</td>
<td>472</td>
</tr>
<tr>
<td>1027103</td>
<td>3 G 0.75</td>
<td>8.2</td>
<td>49.2</td>
<td>105</td>
</tr>
<tr>
<td>1027104</td>
<td>4 G 0.75</td>
<td>8.9</td>
<td>59.9</td>
<td>123</td>
</tr>
<tr>
<td>1027105</td>
<td>5 G 0.75</td>
<td>10</td>
<td>68.6</td>
<td>155</td>
</tr>
<tr>
<td>1027107</td>
<td>7 G 0.75</td>
<td>11.6</td>
<td>91.7</td>
<td>206</td>
</tr>
<tr>
<td>1027112</td>
<td>12 G 0.75</td>
<td>13.8</td>
<td>152.1</td>
<td>304</td>
</tr>
<tr>
<td>1027118</td>
<td>18 G 0.75</td>
<td>16.3</td>
<td>204.4</td>
<td>425</td>
</tr>
<tr>
<td>1027292</td>
<td>3 G 1</td>
<td>8.7</td>
<td>56</td>
<td>124</td>
</tr>
<tr>
<td>1027301</td>
<td>4 G 1</td>
<td>9.8</td>
<td>70.2</td>
<td>155</td>
</tr>
<tr>
<td>1027293</td>
<td>5 G 1</td>
<td>10.6</td>
<td>84</td>
<td>182</td>
</tr>
<tr>
<td>1027294</td>
<td>7 G 1</td>
<td>12.3</td>
<td>108</td>
<td>237</td>
</tr>
<tr>
<td>1027295</td>
<td>12 G 1</td>
<td>14.7</td>
<td>178</td>
<td>352</td>
</tr>
<tr>
<td>1027302</td>
<td>18 G 1</td>
<td>17.3</td>
<td>255</td>
<td>497</td>
</tr>
</tbody>
</table>

**Article number** | **Number of cores and mm² per conductor** | **Outer diameter (mm)** | **Copper index (kg/km)** | **Weight (kg/km)** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1027296</td>
<td>25 G 1</td>
<td>20.5</td>
<td>352</td>
<td>702</td>
</tr>
<tr>
<td>1027303</td>
<td>3 G 1.5</td>
<td>9.7</td>
<td>74.8</td>
<td>152</td>
</tr>
<tr>
<td>1027304</td>
<td>4 G 1.5</td>
<td>10.6</td>
<td>94.2</td>
<td>187</td>
</tr>
<tr>
<td>1027305</td>
<td>5 G 1.5</td>
<td>11.4</td>
<td>101.1</td>
<td>187</td>
</tr>
<tr>
<td>1027307</td>
<td>7 G 1.5</td>
<td>13.8</td>
<td>165.6</td>
<td>320</td>
</tr>
<tr>
<td>1027312</td>
<td>12 G 1.5</td>
<td>16.3</td>
<td>246.5</td>
<td>460</td>
</tr>
<tr>
<td>1027318</td>
<td>18 G 1.5</td>
<td>19.5</td>
<td>374.7</td>
<td>677</td>
</tr>
<tr>
<td>1027325</td>
<td>25 G 1.5</td>
<td>23.4</td>
<td>489.4</td>
<td>926</td>
</tr>
<tr>
<td>1027403</td>
<td>3 G 2.5</td>
<td>10.6</td>
<td>103.9</td>
<td>194</td>
</tr>
<tr>
<td>1027404</td>
<td>4 G 2.5</td>
<td>11.8</td>
<td>161.8</td>
<td>235</td>
</tr>
<tr>
<td>1027405</td>
<td>5 G 2.5</td>
<td>13</td>
<td>184.6</td>
<td>306</td>
</tr>
<tr>
<td>1027407</td>
<td>7 G 2.5</td>
<td>15.8</td>
<td>242.1</td>
<td>428</td>
</tr>
<tr>
<td>1027412</td>
<td>12 G 2.5</td>
<td>18.2</td>
<td>403.5</td>
<td>590</td>
</tr>
<tr>
<td>1027503</td>
<td>3 G 4</td>
<td>12.4</td>
<td>157.5</td>
<td>275</td>
</tr>
<tr>
<td>1027504</td>
<td>4 G 4</td>
<td>14</td>
<td>218.1</td>
<td>365</td>
</tr>
<tr>
<td>1027507</td>
<td>7 G 4</td>
<td>18.3</td>
<td>373.2</td>
<td>629</td>
</tr>
<tr>
<td>1027604</td>
<td>4 G 6</td>
<td>16.1</td>
<td>304.7</td>
<td>500</td>
</tr>
<tr>
<td>1027624</td>
<td>4 G 16</td>
<td>27.1</td>
<td>803.6</td>
<td>1357</td>
</tr>
<tr>
<td>1027634</td>
<td>4 G 25</td>
<td>31.3</td>
<td>1180.4</td>
<td>1879</td>
</tr>
<tr>
<td>1027644</td>
<td>4 G 35</td>
<td>34.3</td>
<td>1593.7</td>
<td>2360</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

For current information see: www.lappgroup.com
**Power and control cables**

**POWER CHAIN APPLICATIONS • VARIOUS APPLICATIONS, CERTIFIED**

---

**ÖLFLEX® CHAIN TM**

Highly flexible control cable with TC-ER, MTW, WTTC or CIC/TC listing acc. (UL) or c(UL) for North America

---

**Benefits**

- Multi-standard certification offers universal application range, reduces part varieties and saves costs
- TC-ER and MTW listings enable open wiring on cable trays as well as the usage for industrial machines with only one cable
- Resistant to contact with many mineral oil-based lubricants and other chemical media
- Ideal for export-oriented machinery and equipment manufacturers thanks to high normative acceptance by the North American NEC (National Electrical Code)
- Under consideration of the temperature range also suitable for flexible outdoor use

---

**Application range**

- In power chains or moving machine parts
- Static open wiring on and between cable trays an industrial machine acc. NEC
- Industrial machinery and machine tools
- Wind turbine engineering
- Linear robots, automated handling equipment

---

**Product features**

- High oil-resistance, according to UL OIL RES I and UL OIL RES II
- Flame-retardant according to CSA FT4; UL Vertical-Tray Flame Test
- Sunlight Resistant; Direct Burial
- Flame-retardant according to CSA FT4; UL Vertical-Tray Flame Test
- Water-resistant, UL 75°C WET rating

---

**Technical data**

- Core identification code
  - Black with white numbers
- Conductor stranding
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- Torsion movement in WTG
  - TW-0 & TW-2, refer to Appendix T0
- Minimum bending radius
  - Flexing: up from 7.5 × outer diameter
    - Fixed installation: 4 × outer diameter
- Nominal voltage
  - UL/CSA: 600 V (TC, MTW, CIC), 1000 V (WTTC, AWM)
  - IEC: U0/U 300/500 V (WTTC, AWM)
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage
  - 2000 V
- Protective conductor
  - G = with GN-YE protective conductor
- Temperature range
  - Fixed installation: -25°C to +90°C (UL TC, MTW, according AWM +105°C)
  - Flexing: -25°C to +90°C (according UL MTW)

---

**Norm references / Approvals**

- Certifications USA (UL) & UL AWM: TC-ER Tray Cable-Exposed Run
- MTW Machine Tool Wire
- WTTC Wind Turbine Tray Cable
- PLTC-ER Power Limited Tray Cable
- ITC Instrumentation Tray Cable
- DP-1 Data Processing Cable
- AWM Style 20886
- Certifications Canada c(UL) & CSA AWM: CIC/TC Control Instrumentation Cable/Tray Cable FT4, AWM I/II A/B FT4
- Class 1 Division 2 per NEC Article 501
- For use in power chains: Please comply with assembly guideline Appendix T3

---

**Product Make-up**

- Extra-fine wire strand made of bare copper
- Core insulation: PVC with nylon skin
- Cores twisted in layers in short lay lengths
- Non-woven wrapping
- Outer jacket: Specially formulated thermoplastic polymer
- Sheath colour: black (similar RAL 9005)

---

**Technical data**

- Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges

---

**Application range**

- Linear robots, automated handling equipment
- Wind turbine engineering
- Industrial machinery and machine tools
- Static open wiring on and between cable
- In power chains or moving machine parts
- Under consideration of the temperature range also suitable for flexible outdoor use

---

**Overview**

---

**Article number**

- Number of cores and mm² per conductor
- Outer diameter (mm)
- Copper index (kg/km)
- Weight (kg/km)

---

**Technical data**

- Core identification code
- Conductor stranding
- Torsion movement in WTG
- Minimum bending radius
- Nominal voltage
- Bending cycles & operation parameters
- Test voltage
- Protective conductor
- Temperature range

---

**Article number**

- Number of cores and mm² per conductor
- Outer diameter (mm)
- Copper index (kg/km)
- Weight (kg/km)

---

**Additional information**

- Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).
- Photographs and graphics are not to scale and do not represent detailed images of the respective products.

---

For current information see: www.lappgroup.com
Highly flexible, screened control cable with TC-ER, MTW, WTTC or CIC/TC listing acc. (UL) or c(UL) for North America

**ÖLFLEX® CHAIN™ CY**

**Technical data**

- **Core identification code**
  - Black with white numbers
- **Conductor stranding**
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- **Nominal voltage**
  - UL/CSA: 600 V (TC, MTW, CIC), WTTC 1000 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 2000 V
- **Protective conductor**
  - G = with GN-YE protective conductor
- **Conductor stranding**
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- **Nominal voltage**
  - UL/CSA: 600 V (TC, MTW, CIC), WTTC 1000 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 2000 V
- **Protective conductor**
  - G = with GN-YE protective conductor
- **Temperature range**
  - Fixed installation: -40°C (-25°C UL TC) to +90°C (UL TC, MTW, according AWM +105°C)
  - Flexing: -25°C to +90°C (according UL MTW)

**Application range**

- In power chains or moving machine parts
- Static open wiring on and between cable tray an industrial machine acc. NEC
- Industrial machinery and machine tools
- Wind turbine engineering
- Linear robots, automated handling equipment

**Product features**

- High oil-resistance, according to UL OIL RES I and UL OIL RES II
- Flame-retardant according to CSA FT4
- UL Vertical-Tray Flame Test

**Benefits**

- Multi-standard certification offers universal application range, reduces part varieties and saves costs
- TC-ER and MTW listings enable open wiring on cable trays as well as the usage for industrial machines with only one cable
- Resistant to contact with many mineral oil-based lubricants and other chemical media
- Ideal for export-oriented machinery and equipment manufacturers thanks to high normative acceptance by the North American NEC (National Electrical Code)
- Under consideration of the temperature range also suitable for flexible outdoor use

**Norm references / Approvals**

- Certifications USA (UL) & UL AWM: TC-ER Tray Cable-Exposed Run
- MTW Machine Tool Wire
- WTTC Wind Turbine Tray Cable
- PLTC-ER Power Limited Tray Cable
- ITC Instrumentation Tray Cable
- DP-1 Data Processing Cable
- AWM Style 20886
- Certifications Canada c(UL) & CSA AWM: CIC/TC Control Instrumentation Cable/
  - Tray Cable FT4, AWM I/II A/B FT4
- Class 1 Division 2 per NEC Articles 336, 501
- For use in power chains: Please comply with assembly guideline Appendix T3

**Core identification code**

- Black with white numbers

**Conductor stranding**

- Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6

**Nominal voltage**

- UL/CSA: 600 V (TC, MTW, CIC), WTTC 1000 V

**Bending cycles & operation parameters**

- See Selection Table A2-1 in the appendix of our online catalogue

**Test voltage**

- 2000 V

**Protective conductor**

- G = with GN-YE protective conductor

**Temperature range**

- Fixed installation: -40°C (-25°C UL TC) to +90°C (UL TC, MTW, according AWM +105°C)
- Flexing: -25°C to +90°C (according UL MTW)

---

### Table: Power and control cables

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8716030S</td>
<td>3 G 1</td>
<td>8.4</td>
<td>59.5</td>
<td>122</td>
</tr>
<tr>
<td>8718040S</td>
<td>2 G 1</td>
<td>9.1</td>
<td>71.4</td>
<td>158</td>
</tr>
<tr>
<td>8718050S</td>
<td>5 G 1</td>
<td>10</td>
<td>84.8</td>
<td>183</td>
</tr>
<tr>
<td>8718070S</td>
<td>7 G 1</td>
<td>11.4</td>
<td>139.9</td>
<td>207</td>
</tr>
<tr>
<td>8718120S</td>
<td>12 G 1</td>
<td>13.9</td>
<td>227.7</td>
<td>341</td>
</tr>
<tr>
<td>8718180S</td>
<td>18 G 1</td>
<td>16.1</td>
<td>321.4</td>
<td>472</td>
</tr>
<tr>
<td>8718250S</td>
<td>25 G 1</td>
<td>18.6</td>
<td>336.3</td>
<td>649</td>
</tr>
<tr>
<td>8716030S</td>
<td>3 G 1</td>
<td>9.2</td>
<td>77.4</td>
<td>170</td>
</tr>
<tr>
<td>8716040S</td>
<td>4 G 1</td>
<td>10.2</td>
<td>98.2</td>
<td>190</td>
</tr>
</tbody>
</table>

**Article number**: 8716030S, 8718040S, 8718050S, 8718070S, 8718120S, 8718180S, 8718250S, 8716030S, 8716040S

---

For current information see: www.lappgroup.com
**OLFLEX® CLASSIC FD 810 P**

Highly flexible control cable with PVC core insulation and abrasion and oil resistant PUR sheath

**Benefits**
- Well-proven and reliable
- Various applications
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media

**Application range**
- In power chains or moving machine parts
- Particularly in wet areas of machine tools and transfer lines
- Power circuits for electrical equipments used in automation engineering
- Suitable for use in measuring, control and regulating circuits
- Assembly lines, production lines, in all kinds of machines
- In dry, damp or wet interiors with normal mechanical stress conditions

**Product features**
- Flame-retardant according IEC 60332-1-2
- High oil-resistance
- Abrasion and notch-resistant
- Low-adhesive surface

**Technical data**

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/kg)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026300</td>
<td>2 X 0.5</td>
<td>5.3</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>0026301</td>
<td>3 G 0.5</td>
<td>5.7</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>0026302</td>
<td>4 G 0.5</td>
<td>6.3</td>
<td>19</td>
<td>33</td>
</tr>
<tr>
<td>0026303</td>
<td>5 G 0.5</td>
<td>6.8</td>
<td>24</td>
<td>50</td>
</tr>
<tr>
<td>0026304</td>
<td>7 G 0.5</td>
<td>8.4</td>
<td>34</td>
<td>82</td>
</tr>
<tr>
<td>0026305</td>
<td>12 G 0.5</td>
<td>9.5</td>
<td>58</td>
<td>129</td>
</tr>
<tr>
<td>0026306</td>
<td>18 G 0.5</td>
<td>11.4</td>
<td>86.4</td>
<td>185</td>
</tr>
<tr>
<td>0026319</td>
<td>2 X 0.75</td>
<td>5.7</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>0026320</td>
<td>3 G 0.75</td>
<td>6.2</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>0026321</td>
<td>4 G 0.75</td>
<td>6.8</td>
<td>29</td>
<td>57</td>
</tr>
<tr>
<td>0026322</td>
<td>5 G 0.75</td>
<td>7.4</td>
<td>37</td>
<td>80</td>
</tr>
<tr>
<td>0026323</td>
<td>7 G 0.75</td>
<td>8.9</td>
<td>51</td>
<td>109</td>
</tr>
<tr>
<td>0026324</td>
<td>12 G 0.75</td>
<td>10.6</td>
<td>87</td>
<td>172</td>
</tr>
<tr>
<td>0026325</td>
<td>18 G 0.75</td>
<td>12.7</td>
<td>130</td>
<td>247</td>
</tr>
<tr>
<td>0026327</td>
<td>25 G 0.75</td>
<td>15.2</td>
<td>181</td>
<td>346</td>
</tr>
<tr>
<td>0026330</td>
<td>2 X 1</td>
<td>6.1</td>
<td>20</td>
<td>52</td>
</tr>
<tr>
<td>0026331</td>
<td>3 G 1</td>
<td>6.6</td>
<td>29</td>
<td>66</td>
</tr>
<tr>
<td>0026332</td>
<td>4 G 1</td>
<td>7.3</td>
<td>39</td>
<td>82</td>
</tr>
<tr>
<td>0026333</td>
<td>5 G 1</td>
<td>8.8</td>
<td>48</td>
<td>97</td>
</tr>
<tr>
<td>0026334</td>
<td>7 G 1</td>
<td>9.6</td>
<td>67</td>
<td>117</td>
</tr>
<tr>
<td>0026335</td>
<td>12 G 1</td>
<td>11.4</td>
<td>115</td>
<td>211</td>
</tr>
<tr>
<td>0026336</td>
<td>18 G 1</td>
<td>13.9</td>
<td>173</td>
<td>310</td>
</tr>
<tr>
<td>0026339</td>
<td>25 G 1</td>
<td>16.4</td>
<td>240</td>
<td>426</td>
</tr>
<tr>
<td>0026341</td>
<td>34 G 1</td>
<td>18.9</td>
<td>326.4</td>
<td>571</td>
</tr>
<tr>
<td>0026342</td>
<td>41 G 1</td>
<td>20.6</td>
<td>394</td>
<td>684</td>
</tr>
<tr>
<td>0026343</td>
<td>50 G 1</td>
<td>22.3</td>
<td>480</td>
<td>822</td>
</tr>
<tr>
<td>0026344</td>
<td>62 G 1</td>
<td>25.4</td>
<td>624</td>
<td>1058</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

For current information see: www.lappgroup.com
Highly flexible, screened control cable with PVC insulation, inner sheath and abrasion and oil resistant PUR jacket

**Benefits**
- Well-proven and reliable
- Various applications
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Additional robustness thanks to inner sheath
- Copper braiding screens the cable against electromagnetic interference

**Application range**
- In power chains or moving machine parts
- Particularly in wet areas of machine tools and transfer lines
- Power circuits for electrical equipments used in automation engineering
- Suitable for use in measuring, control and regulating circuits
- In dry, damp or wet interiors with normal mechanical stress conditions

**Product features**
- Flame-retardant according to IEC 60332.1.2
- High oil-resistance
- Abrasion and notch-resistant
- EMC-compliant
- Low-adhesive surface

**Norm references / Approvals**
- Core and outer sheath based on VDE 0245/02025
- For use in power chains: Please comply with assembly guideline Appendix T3

**Product Make-up**
- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: PVC
- PVC inner sheath
- Tinned-copper braiding
- PUR outer sheath, grey (similar RAL 7001)

**Technical data**
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - Black with white numbers acc. to VDE 0293-1
- Conductor stranding
  - Extra-fine wire acc. to VDE 0245, class 6
  - IEC 60228, class 6
- Minimum bending radius
  - Flexing: up from 7.5 x outer diameter
  - Fixed installation: 4 x outer diameter
- Nominal voltage
  - U0/U: 300/500 V
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage
  - 4000 V
- Protective conductor
  - G = without GN-YE protective conductor
  - X = without protective conductor
- Temperature range
  - Flexing: -5°C to +70°C
  - Fixed installation: -40°C to +80°C

**Article number**
- Number of cores and mm² per conductor
- Outer diameter (mm)
- Copper index (kg/km)
- Weight (kg/km)

**Technical data**
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - Black with white numbers acc. to VDE 0293-1
- Conductor stranding
  - Extra-fine wire acc. to VDE 0245, class 6
  - IEC 60228, class 6
- Minimum bending radius
  - Flexing: up from 7.5 x outer diameter
  - Fixed installation: 4 x outer diameter
- Nominal voltage
  - U0/U: 300/500 V
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage
  - 4000 V
- Protective conductor
  - G = without GN-YE protective conductor
  - X = without protective conductor
- Temperature range
  - Flexing: -5°C to +70°C
  - Fixed installation: -40°C to +80°C

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
ÖLFLEX® ROBUST FD
Highly flexible, all-weather control cable with TPE sheath - resistant to a wide range of chemical media

Benefits
- Outstanding weather, ozone and UV resistance together with the wide temperature range enable versatile use for indoor and outdoor applications
- Resistant to contact with organic oils and the related emulsions as well as a multitude of plant, animal or synthetic-based greases and waxes
- Good resistance to ammonia compounds and bio-gases
- Good resistance to cold and hot water as well as water-soluble cleaning and cooling agents
- Well-suited to steam cleaning
- Low particle emission at moved chain application

Application range
- In power chains or moving machine parts
- In machine tool building, medical technology, laundries, car washing equipment, chemical industry, composting plants, sewage works
- Food and beverage industry, especially for production and processing equipment of milk and meat products
- For indoor and outdoor use

Product features
- Highly resistant to oil and chemicals
- Ozone, UV and weather-resistant according to EN 50396 and HD 605 S2
- Hydrolysis-resistant to warm and hot water
- Good chemical resistance to ester-based hydraulic fluids
- Flexible down to -40°C

Norm references / Approvals
- Based on VDE 0250 / 0285
- Certified resistance to disinfection and cleaning solutions used in food and beverage industry
- Clean room classification for individual items on request
- For use in power chains: Please comply with assembly guideline Appendix T3

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026516</td>
<td>7 G 1</td>
<td>11.1</td>
<td>67.2</td>
<td>157</td>
</tr>
<tr>
<td>0026517</td>
<td>12 G 1</td>
<td>13.3</td>
<td>115.2</td>
<td>226</td>
</tr>
<tr>
<td>0026518</td>
<td>18 G 1</td>
<td>15.9</td>
<td>172.8</td>
<td>345</td>
</tr>
<tr>
<td>0026519</td>
<td>25 G 1</td>
<td>19.8</td>
<td>240</td>
<td>547</td>
</tr>
<tr>
<td>0026548</td>
<td>2 X 1.5</td>
<td>8</td>
<td>28.8</td>
<td>73</td>
</tr>
<tr>
<td>0026521</td>
<td>3 G 1.5</td>
<td>8.9</td>
<td>43.2</td>
<td>90</td>
</tr>
<tr>
<td>0026522</td>
<td>4 G 1.5</td>
<td>9.9</td>
<td>57.6</td>
<td>118</td>
</tr>
<tr>
<td>0026523</td>
<td>5 G 1.5</td>
<td>11</td>
<td>72</td>
<td>149</td>
</tr>
<tr>
<td>0026524</td>
<td>7 G 1.5</td>
<td>13.4</td>
<td>100.8</td>
<td>233</td>
</tr>
<tr>
<td>0026525</td>
<td>12 G 1.5</td>
<td>15.8</td>
<td>172.8</td>
<td>322</td>
</tr>
<tr>
<td>0026526</td>
<td>16 G 1.5</td>
<td>18.9</td>
<td>259.2</td>
<td>494</td>
</tr>
<tr>
<td>0026527</td>
<td>25 G 1.5</td>
<td>23.5</td>
<td>360</td>
<td>695</td>
</tr>
<tr>
<td>0026531</td>
<td>4 G 2.5</td>
<td>11.8</td>
<td>96</td>
<td>181</td>
</tr>
<tr>
<td>0026532</td>
<td>5 G 2.5</td>
<td>12.9</td>
<td>120</td>
<td>228</td>
</tr>
<tr>
<td>0026533</td>
<td>7 G 2.5</td>
<td>15.7</td>
<td>168</td>
<td>329</td>
</tr>
<tr>
<td>0026534</td>
<td>12 G 2.5</td>
<td>18.7</td>
<td>288</td>
<td>491</td>
</tr>
<tr>
<td>0026541</td>
<td>4 G 4</td>
<td>13.8</td>
<td>153.6</td>
<td>261</td>
</tr>
<tr>
<td>0026551</td>
<td>4 G 6</td>
<td>14.8</td>
<td>230.4</td>
<td>356</td>
</tr>
<tr>
<td>0026561</td>
<td>4 G 10</td>
<td>20.1</td>
<td>384</td>
<td>596</td>
</tr>
<tr>
<td>0026571</td>
<td>4 G 16</td>
<td>23.8</td>
<td>614.4</td>
<td>910</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

For current information see: www.lappgroup.com
New dimensions available!
Extended Line Performance - Long travel lengths or high acceleration
Good chemical resistance

Benefits
- Outstanding weather, ozone and UV resistance together with the wide temperature range enable versatile use for indoor and outdoor applications
- Resistant to contact with organic oils and the related emulsions as well as a multitude of plant, animal or synthetic greases and waxes
- Good resistance to ammonia compounds and bio-gases
- Good resistance to cold and hot water as well as water-soluble cleaning and cooling agents
- Well-suited to steam cleaning
- Copper screening complies with EMC requirements and protects against electromagnetic interference

Application range
- In power chains or moving machine parts
- Machine tool building, medical technology, laundries, car washing equipment, chemical industry, composting plants, sewage works
- Food and beverage industry, especially for production and processing equipment of milk and meat products
- Assembly lines, production lines, in all kinds of machines
- For indoor and outdoor use

Product features
- Ozone, UV and weather-resistant according to EN 50396 and HD 605 52
- Highly resistant to oil and chemicals
- Hydrolysis-resistant to warm and hot water
- Good chemical resistance to ester-based hydraulic fluids
- Flexible down to -40°C

Norm references / Approvals
- Based on VDE 0250 / 0285
- Certified resistance to disinfection and cleaning solutions used in food and beverage industry
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Extra-fine wire, tinned copper strands
- Core insulation: TPE
- Cores twisted together in extremely short lay lengths
- Non-woven wrapping
- Inner sheath made of TPE
- Tinned-copper braiding
- Robust outer sheath made of special halogen-free TPE, black (similar RAL 9005)

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0026736</td>
<td>2 x 0.5</td>
<td>8.3</td>
<td>33.6</td>
<td>77</td>
</tr>
<tr>
<td>0026737</td>
<td>3 x 0.5</td>
<td>8.8</td>
<td>41.8</td>
<td>92</td>
</tr>
<tr>
<td>0026738</td>
<td>4 x 0.5</td>
<td>9.5</td>
<td>49.9</td>
<td>108</td>
</tr>
<tr>
<td>0026739</td>
<td>5 x 0.5</td>
<td>10.4</td>
<td>57.9</td>
<td>127</td>
</tr>
<tr>
<td>0026740</td>
<td>7 x 0.5</td>
<td>12</td>
<td>74.1</td>
<td>165</td>
</tr>
<tr>
<td>0026744</td>
<td>12 x 0.5</td>
<td>14.4</td>
<td>120.5</td>
<td>248</td>
</tr>
<tr>
<td>0026745</td>
<td>18 x 0.5</td>
<td>16.7</td>
<td>158</td>
<td>330</td>
</tr>
<tr>
<td>0026746</td>
<td>25 x 0.5</td>
<td>20.3</td>
<td>230.8</td>
<td>471</td>
</tr>
<tr>
<td>0026747</td>
<td>2 x 0.75</td>
<td>8.6</td>
<td>41.4</td>
<td>87</td>
</tr>
<tr>
<td>0026701</td>
<td>3 x 0.75</td>
<td>9.1</td>
<td>49.6</td>
<td>110</td>
</tr>
<tr>
<td>0026702</td>
<td>4 x 0.75</td>
<td>10.1</td>
<td>60.9</td>
<td>137</td>
</tr>
<tr>
<td>0026703</td>
<td>5 x 0.75</td>
<td>10.8</td>
<td>72.8</td>
<td>160</td>
</tr>
<tr>
<td>0026704</td>
<td>7 x 0.75</td>
<td>12.6</td>
<td>107.2</td>
<td>238</td>
</tr>
<tr>
<td>0026705</td>
<td>12 x 0.75</td>
<td>15</td>
<td>151.5</td>
<td>312</td>
</tr>
<tr>
<td>0026706</td>
<td>18 x 0.75</td>
<td>17.7</td>
<td>205.5</td>
<td>448</td>
</tr>
<tr>
<td>0026707</td>
<td>25 x 0.75</td>
<td>21.7</td>
<td>299.1</td>
<td>657</td>
</tr>
<tr>
<td>0026708</td>
<td>2 x 1</td>
<td>9</td>
<td>47.2</td>
<td>105</td>
</tr>
<tr>
<td>0026709</td>
<td>3 x 1</td>
<td>9.8</td>
<td>61.1</td>
<td>125</td>
</tr>
<tr>
<td>0026710</td>
<td>4 x 1</td>
<td>10.6</td>
<td>74.8</td>
<td>157</td>
</tr>
<tr>
<td>0026711</td>
<td>5 x 1</td>
<td>12.1</td>
<td>86.2</td>
<td>198</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

For current information see: www.lappgroup.com
ÖLFLEX® CHAIN 90 P
Highly flexible single core power cable with abrasion and oil resistant PUR sheath - certified for North America

Benefits
• Allows much faster speed and accelerations which increases the economic efficiency of the machines
• Multi-standard certification reduces part varieties and saves costs
• Increased durability under harsh conditions thanks to robust PUR outer sheath
• Resistant to contact with many mineral oil-based lubricants, dilute acids, aqueous alkaline solutions and other chemical media
• Wide temperature range for applications in harsh climatic environments
• Longer cable installation lengths thanks to low mutual capacitance cable design

Application range
• In power chains or moving machine parts
• For internal wiring of electric and electronic equipment in switch cabinets
• Specially designed for power circuits of servomotors driven by frequency converters
• This cable can substitute multi-core power cables where space requirements or minimum bending radii cause problems
• Test systems in the automotive industry, vehicles and stationary fuel cell systems
• For indoor and outdoor use

Product features
• Flammability: - Halogen-free acc. to VDE 0472-815
- Flame retardant acc. to IEC 60332-1-2 or UL/cUL VW-1, FT1
- No flame propagation acc. to IEC 60332-3-24 Cat. C or /-25 Cat. D
• Good weather, UV and oil resistance
• Abrasion and notch-resistant
• Flexible at low temperatures
• Low-capacitance design

Norm references / Approvals
• USA: UL AWM Style 11624, VW-1
• Canada: cUL AWM II A, FT1
• UL File No. E63634
• For use in power chains: Please comply with assembly guideline Appendix T3

Technical data
Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000057
ETIM 5.0/6.0 Class-Description: Low voltage power cable
Core identification code
Black or green-yellow, other colours available on request
Conductor stranding
Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
Torsion movement in WTG
TW-0 & TW-2, refer to Appendix T0
Minimum bending radius
Flexing: up from 7.5 × outer diameter
Fixed installation: 3 × outer diameter
Nominal voltage
IEC: U0/U 600/1000 V
UL & CSA: 1000 V
Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue
Test voltage
4000 V
Temperature range
Flexing: -35°C to +80°C
Fixed installation: -50°C to +80°C

Power and control cables
Power chain applications • Harsh conditions, certified

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

UNI-TRONIC®
ETHERLINE®
HITRONIC®
EPIC®
SKINTOP®
SILVYN®
ACCESSORIES
APPENDIX

294
For current information see: www.lappgroup.com
**ÖLFLEX® CHAIN 90 CP**

Highly flexible, screened single core power cable with abrasion and oil resistant PUR sheath - certified for North America

### Info
- Extended Line Performance - Long travel lengths or high acceleration
- Allrounder for indoor and outdoor use
- Improved characteristics in the event of a fire

### Benefits
- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aggressive alkali solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments
- Longer cable installation lengths thanks to low mutual capacitance cable design
- Copper screening complies with EMC requirements and protects against electromagnetic interference

### Application range
- In power chains or moving machine parts
- For internal wiring of electric and electronic equipment in switch cabinets
- Specially designed for power circuits of servomotors driven by frequency converters
- This cable can substitute screened multi-core motor cables where space requirements or minimum bending radii cause problems
- Test systems in the automotive industry, vehicles and stationary fuel cell systems
- For indoor and outdoor use

### Product features
- Flammability: Halogen-free acc. to VDE 0472-815
- Flame retardant acc. to IEC 60332-1-2 or UL/cUL VW-1, FT1
- No flame propagation acc. to IEC 60332-3-24 Cat. C or /-25 Cat. D
- Good weather, UV and oil resistance
- Flexible at low temperatures
- Low-capacitance design
- EMC-compliant

### Norm references / Approvals
- USA: UL AWM Style 11624, VW-1
- Canada: cUL AWM I/II A, FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

### Technical data
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000057
  - ETIM 5.0/6.0 Class-Description: Low voltage power cable
- Core identification code
  - Black, other colours are available upon request
- Conductor stranding
  - Extra-fine wire according to VDE 0295, class 6
  - IEC 60228, class 6
- Minimum bending radius
  - Flexing: up from 7.5 x outer diameter
  - Fixed installation: 3 x outer diameter
- Nominal voltage
  - IEC: U0/U 600/1000 V
  - UL & CSA: 1000 V
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage
  - 4000 V
- Temperature range
  - Flexing: -35°C to +80°C
  - Fixed installation: -50°C to +80°C

### Table of Article number, Conductor cross-section, Outer diameter, Copper index, Weight

<table>
<thead>
<tr>
<th>Article number</th>
<th>Conductor cross-section (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1026547</td>
<td>1,5</td>
<td>7</td>
<td>23,8</td>
<td>60</td>
</tr>
<tr>
<td>1026548</td>
<td>2,5</td>
<td>7,6</td>
<td>41</td>
<td>90</td>
</tr>
<tr>
<td>1026549</td>
<td>4</td>
<td>7,9</td>
<td>58,8</td>
<td>100</td>
</tr>
<tr>
<td>1026550</td>
<td>6</td>
<td>8,4</td>
<td>81,3</td>
<td>120</td>
</tr>
<tr>
<td>1026551</td>
<td>10</td>
<td>9,8</td>
<td>123</td>
<td>180</td>
</tr>
<tr>
<td>1026553</td>
<td>16</td>
<td>11,3</td>
<td>187,7</td>
<td>240</td>
</tr>
<tr>
<td>1026555</td>
<td>25</td>
<td>13</td>
<td>280,6</td>
<td>340</td>
</tr>
<tr>
<td>1026557</td>
<td>35</td>
<td>14,2</td>
<td>398,9</td>
<td>480</td>
</tr>
<tr>
<td>1026559</td>
<td>50</td>
<td>16,8</td>
<td>551,7</td>
<td>610</td>
</tr>
<tr>
<td>1026561</td>
<td>70</td>
<td>19,1</td>
<td>773,2</td>
<td>880</td>
</tr>
<tr>
<td>1026563</td>
<td>95</td>
<td>21,6</td>
<td>1036,6</td>
<td>1160</td>
</tr>
<tr>
<td>1026565</td>
<td>120</td>
<td>23,4</td>
<td>1277,7</td>
<td>1380</td>
</tr>
<tr>
<td>1026567</td>
<td>150</td>
<td>25,9</td>
<td>1618</td>
<td>1670</td>
</tr>
<tr>
<td>1026569</td>
<td>185</td>
<td>28,5</td>
<td>1957,3</td>
<td>1980</td>
</tr>
<tr>
<td>1026571</td>
<td>240</td>
<td>33,4</td>
<td>2511,7</td>
<td>2600</td>
</tr>
<tr>
<td>1026573</td>
<td>300</td>
<td>35,3</td>
<td>3117</td>
<td>3210</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg.

Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standard-lengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Power and control cables

Power chain applications • Harsh conditions, certified

ÖLFLEX® CHAIN 819 P
Highly flexible control cable with PVC core insulation and robust, oil resistant outer sheath - certified

Benefits
• Good combination of quality and price
• Durable thanks to robust sheath material
• Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
• Multi-standard certification reduces part varieties and saves costs
• Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
• In power chains or moving machine parts
• Very suitable for oily wet areas within machinery and production lines
• Suitable for use in measuring, control and regulating circuits
• Assembly lines, production lines, in all kinds of machines
• Indoor applications

Product features
• High oil-resistance
• Flammability: IEC/EN: 60332-1-2
UL/CSA: Horizontal Flame, FT2
• Mechanically robust
• Low-adhesive surface

Norm references / Approvals
• USA: UL AWM Style 21576
Canada: CUL AWM Style I/II A FT2
• UL File No. E63634
• For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
• Fine-wire, bare copper conductor
• Core insulation: PVC
• Cores twisted in layers
• Non-woven wrapping
• Outer sheath of Lapp-PU-Special Blend, black (similar RAL 9005)

Technical data
Core identification code
- Black with white numbers acc. to VDE 0293-1

Conductor stranding
- Fine wire according to VDE 0293-1
- TW-0 & TW-1, refer to Appendix T0

Torsion movement in W TG
- Minimum bending radius
  - Flexing: from 10 × outer diameter
  - Fixed installation: 4 × outer diameter

Nominal voltage
- IEC Ul/UL: 300/500 V
- UL: 1000 V

Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue

Test voltage
- Core/core: 4000 V
- Protective conductor
  - G = with GN-YE protective conductor
  - X = without protective conductor

Temperature range
- Flexing: -5°C to +70°C (UL: +80°C)
- Fixed installation: -40°C to +70°C (UL: +80°C)

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

See Selection Table A2-1 and TWG-1 for full details. For current information see: www.lappgroup.com
**Benefits**
- Good combination of quality and price
- Durable thanks to robust sheath material
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Multi-standard certification reduces part varieties and saves costs
- Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers
- Copper braiding screens the cable against electromagnetic interference

**Application range**
- In power chains or moving machine parts
- In EMC-sensitive environments
- Very suitable for oily wet areas within machinery and production lines
- Assembly lines, production lines, in all kinds of machines
- Suitable for use in measuring, control and regulating circuits
- Indoor applications

**Product features**
- High oil-resistance
- Flammability: IEC/EN: 60332-1-2
- UL/CSA: Horizontal Flame, FT2
- Mechanically robust
- Low-adhesive surface
- EMC-compliant

**Norm references / Approvals**
- USA: UL AWM Style 21576
- Canada: cUL AWM Style I/II A FT2
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

**Product Make-up**
- Fine-wire, bare copper conductor
- Core insulation: PVC
- Cores twisted in layers
- Non-woven wrapping
- Tinned-copper braiding
- Outer sheath of Lapp-PU-Special Blend, black (similar RAL 9005)

**Technical data**
- Core identification code
  - Black with white numbers acc. to VDE 0293-1
- Conductor stranding
  - Fine wire according to VDE 0295, Class 5 / IEC 60228, Class 5
- Torsion movement in WTG:
  - TW-0 & TW-1, refer to Appendix T0
- Minimum bending radius
  - Flexing: up from 10 × outer diameter
  - Fixed installation: 4 × outer diameter
- Nominal voltage
  - IEC U0/U: 300/500 V
  - UL: 1000 V
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage
  - Core/core: 4000 V
  - Core/screen: 2000 V
- Protective conductor
  - G = with GN YE protective conductor
  - X = without protective conductor
- Temperature range
  - Flexing: -5°C to +70°C (UL: +80°C)
  - Fixed installation: -40°C to +70°C (UL: +80°C)

Unspecified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
**ÖLFLEX® FD 855 P**

Halogen-free, highly flexible control cable with abrasion and oil resistant PUR sheath - certified

---

### Benefits
- **Allows much faster speed and accelerations which increases the economic efficiency of the machines**
- **Multi-standard certification reduces part varieties and saves costs**
- **Low particle emission at moved chain application**
- **Increased durability under harsh conditions thanks to robust PUR outer sheath**
- **Resistant to contact with many mineral oil-based lubricants, dilutated acids, aqueous alkaline solutions and other chemical media**
- **Wide temperature range for applications in harsh climatic environments**

### Application range
- **In power chains or moving machine parts**
- **Particularly in wet areas of machine tools and transfer lines**
- **Assembly lines, production lines, in all kinds of machines**
- **For use in assembling & pick-and-place machinery**
- **For highly dynamic applications**
- **For indoor and outdoor use**

### Product features
- **Halogen-free and flame-retardant** (IEC 60332-1-2)
- **Resistant to oil and drilling fluids according to IEC 61892-4, Appendix D**
- **Flexible down to -40°C**
- **Abrasion and notch-resistant**
- **Low-adhesive surface**

### Norm references / Approvals
- **Based on VDE 0250 / 0285**
- **USA: UL AWM Style 21576**
- **Canada: CUL AWM Style I/II A FT2**
- **UL File No. E63634**
- **Clean room classification for individual items on request**
- **For use in power chains: Please comply with assembly guideline Appendix T3**

### Product Make-up
- **Extra-fine wire strand made of bare copper wires (class 6)**
- **Core insulation: TPE**
- **Cores twisted together in extremely short lay lengths**
- **Non-woven wrapping**
- **PUR outer sheath, grey (similar RAL 7001)**

---

### Technical data
- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000104  
  - ETIM 5.0/6.0 Class-Description: Control cable
- **Core identification code**
  - Black with white numbers acc. to VDE 0293-1
- **Conductor stranding**
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- **Minimum bending radius**
  - Flexing: up from 5 × outer diameter
  - Fixed installation: 3 × outer diameter
- **Nominal voltage**
  - IEC U0/U: 300/500 V  
  - UL: 1000 V
- **Bending cycles & operation parameters**
  - See Selection Table A2-1 in the appendix of our online catalogue
- **Test voltage**
  - 3000 V
- **Protective conductor**
  - G = with GN-YE protective conductor  
  - X = without protective conductor
- **Temperature range**
  - Flexing: -40°C to +80°C  
  - Fixed installation: -50°C to +80°C

### Table: ÖLFLEX® FD 855 P

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper/kg/km</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0027530</td>
<td>2 X 0.5</td>
<td>5.1</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>0027531</td>
<td>3 G 0.5</td>
<td>5.5</td>
<td>14</td>
<td>40</td>
</tr>
<tr>
<td>0027532</td>
<td>5 G 0.5</td>
<td>6.6</td>
<td>24</td>
<td>55</td>
</tr>
<tr>
<td>0027533</td>
<td>6 G 0.5</td>
<td>7.1</td>
<td>29</td>
<td>63</td>
</tr>
<tr>
<td>0027534</td>
<td>7 G 0.5</td>
<td>7.7</td>
<td>34</td>
<td>76</td>
</tr>
<tr>
<td>0027535</td>
<td>12 G 0.5</td>
<td>9.1</td>
<td>58</td>
<td>114</td>
</tr>
<tr>
<td>0027536</td>
<td>18 G 0.5</td>
<td>10.9</td>
<td>86</td>
<td>185</td>
</tr>
<tr>
<td>0027537</td>
<td>20 G 0.5</td>
<td>11.5</td>
<td>96</td>
<td>180</td>
</tr>
<tr>
<td>0027538</td>
<td>25 G 0.5</td>
<td>13.4</td>
<td>120</td>
<td>219</td>
</tr>
<tr>
<td>0027540</td>
<td>30 G 0.5</td>
<td>13.6</td>
<td>144</td>
<td>251</td>
</tr>
<tr>
<td>0027541</td>
<td>36 G 0.5</td>
<td>14.7</td>
<td>173</td>
<td>290</td>
</tr>
<tr>
<td>0027545</td>
<td>2 X 0.75</td>
<td>5.6</td>
<td>14</td>
<td>42</td>
</tr>
<tr>
<td>0027546</td>
<td>3 G 0.75</td>
<td>6</td>
<td>22</td>
<td>50</td>
</tr>
<tr>
<td>0027547</td>
<td>4 G 0.75</td>
<td>6.7</td>
<td>29</td>
<td>60</td>
</tr>
<tr>
<td>0027548</td>
<td>5 G 0.75</td>
<td>7.3</td>
<td>36</td>
<td>71</td>
</tr>
<tr>
<td>0027549</td>
<td>7 G 0.75</td>
<td>8.8</td>
<td>50</td>
<td>99</td>
</tr>
<tr>
<td>0027550</td>
<td>12 G 0.75</td>
<td>10.3</td>
<td>86</td>
<td>158</td>
</tr>
<tr>
<td>0027551</td>
<td>18 G 0.75</td>
<td>12.4</td>
<td>130</td>
<td>219</td>
</tr>
<tr>
<td>0027552</td>
<td>20 G 0.75</td>
<td>13.3</td>
<td>144</td>
<td>240</td>
</tr>
<tr>
<td>0027553</td>
<td>25 G 0.75</td>
<td>15.5</td>
<td>180</td>
<td>309</td>
</tr>
<tr>
<td>0027555</td>
<td>36 G 0.75</td>
<td>16.9</td>
<td>259</td>
<td>411</td>
</tr>
<tr>
<td>0027560</td>
<td>2 X 1</td>
<td>6</td>
<td>19</td>
<td>50</td>
</tr>
<tr>
<td>0027561</td>
<td>3 G 1</td>
<td>6.5</td>
<td>29</td>
<td>61</td>
</tr>
<tr>
<td>0027562</td>
<td>4 G 1</td>
<td>7.2</td>
<td>38</td>
<td>70</td>
</tr>
<tr>
<td>0027563</td>
<td>5 G 1</td>
<td>7.8</td>
<td>48</td>
<td>93</td>
</tr>
</tbody>
</table>

---

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

- **Copper price basis:** EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

For current information see: www.lappgroup.com
**ÖLFLEX® FD 855 CP**

Halogen-free, highly flexible and screened control cable with abrasion and oil resistant PUR sheath - certified

### Benefits

- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments
- Multi-standard certification reduces part varieties and saves costs
- Copper screening complies with EMC requirements and protects against electromagnetic interference

### Application range

- In power chains or moving machine parts
- Particularly in wet areas of machine tools and transfer lines
- For use in assembling & pick-and-place machinery
- Assembly lines, production lines, in all kinds of machines
- In EMC-sensitive environments
- For indoor and outdoor use

### Product features

- Good mechanical, abrasion and notch-resistance
- Halogen-free and flame-retardant (IEC 60332-1-2)
- Resistant to oil and drilling fluids according to IEC 61892-4, Appendix D
- Flexible down to -40°C
- Low-adhesive surface
- EMC-compliant

### Technical data

#### Classification ETIM 5/6

- ETIM 5.0/6.0 Class-ID: EC001004
- ETIM 5.0/6.0 Class-Description: Control cable

#### Core identification code

- Black with white numbers acc. to VDE 0293-1

#### Conductor stranding

- Extra-fine wire acc. to VDE 0295, class 6/IEC 60228, class 6

#### Minimum bending radius

- Flexing: up from 7.5 × outer diameter
- Fixed installation: 4 × outer diameter

#### Nominal voltage

- IEC UL/U: 300/500 V
- UL: 1000 V

#### Bending cycles & operation parameters

- See Selection Table A2-1 in the appendix of our online catalogue

#### Test voltage

- 3000 V

#### Protective conductor

- G = with GN-YE protective conductor
- X = without protective conductor

#### Temperature range

- Flexing: -40°C to +80°C
- Fixed installation: -50°C to +80°C

### Product Make-up

- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: TPE
- Cores twisted together in extremely short lay lengths
- Non-woven wrapping
- Inner sheath made of TPE
- Tinned-copper braiding
- PUR outer sheath, grey (similar RAL 7001)

### Norm references / Approvals

- Based on VDE 0250 / 0285
- USA: UL AWM Style 21576 with add. VW-1 Canada: cUL AWM Style I/II A/B FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

### Application range

- For indoor and outdoor use
- In EMC-sensitive environments
- For use in assembling & pick-and-place machinery
- Assembly lines, production lines, in all kinds of machines
- Particularly in wet areas of machine tools
- In power chains or moving machine parts
- For use in power chains: Please comply with assembly guideline Appendix T3

### Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0027654</td>
<td>18 G 1.5</td>
<td>17.4</td>
<td>346</td>
<td>564</td>
</tr>
<tr>
<td>0027653</td>
<td>12 G 1.5</td>
<td>14.9</td>
<td>242</td>
<td>416</td>
</tr>
<tr>
<td>0027652</td>
<td>7 G 1.5</td>
<td>12.5</td>
<td>145</td>
<td>254</td>
</tr>
<tr>
<td>0027651</td>
<td>5 G 1.5</td>
<td>10.8</td>
<td>111</td>
<td>198</td>
</tr>
<tr>
<td>0027649</td>
<td>3 G 1.5</td>
<td>8.3</td>
<td>58</td>
<td>112</td>
</tr>
<tr>
<td>0027648</td>
<td>2 G 1.5</td>
<td>6.3</td>
<td>38</td>
<td>70</td>
</tr>
<tr>
<td>0027647</td>
<td>1 G 1.5</td>
<td>4.9</td>
<td>24</td>
<td>44</td>
</tr>
<tr>
<td>0027646</td>
<td>0.5 G 1.5</td>
<td>3.6</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>0027645</td>
<td>0.75 G 1.5</td>
<td>2.9</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>0027643</td>
<td>0.8 G 1.5</td>
<td>2.3</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>0027642</td>
<td>0.88 G 1.5</td>
<td>2.1</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>0027641</td>
<td>0.9 G 1.5</td>
<td>1.9</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>0027639</td>
<td>0.96 G 1.5</td>
<td>1.8</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>0027638</td>
<td>0.89 G 1.5</td>
<td>1.7</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>0027637</td>
<td>0.88 G 1.5</td>
<td>1.6</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>0027636</td>
<td>0.81 G 1.5</td>
<td>1.5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>0027635</td>
<td>0.76 G 1.5</td>
<td>1.4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>0027634</td>
<td>0.71 G 1.5</td>
<td>1.3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>0027633</td>
<td>0.67 G 1.5</td>
<td>1.2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027632</td>
<td>0.63 G 1.5</td>
<td>1.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027631</td>
<td>0.59 G 1.5</td>
<td>1.0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027630</td>
<td>0.55 G 1.5</td>
<td>0.9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027629</td>
<td>0.51 G 1.5</td>
<td>0.8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027628</td>
<td>0.47 G 1.5</td>
<td>0.7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027627</td>
<td>0.43 G 1.5</td>
<td>0.6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027626</td>
<td>0.39 G 1.5</td>
<td>0.5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027625</td>
<td>0.35 G 1.5</td>
<td>0.4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027624</td>
<td>0.31 G 1.5</td>
<td>0.3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027623</td>
<td>0.27 G 1.5</td>
<td>0.2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027622</td>
<td>0.23 G 1.5</td>
<td>0.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027621</td>
<td>0.19 G 1.5</td>
<td>0.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027620</td>
<td>0.15 G 1.5</td>
<td>0.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027619</td>
<td>0.11 G 1.5</td>
<td>0.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027618</td>
<td>0.07 G 1.5</td>
<td>0.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0027617</td>
<td>0.03 G 1.5</td>
<td>0.1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

### unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

### Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

### Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

### For current information see: www.lappgroup.com
## Power and control cables

Power chain applications • Harsh conditions, certified

### ÖLFLEX® PETRO FD 865 CP

Halogen-free, highly flexible and screened control cable with abrasion and MUD-resistant PUR sheath - certified

#### Benefits
- Suitable for contact with oil- and ester-based drilling muds as well as calcium bromide solutions
- Resistant to contact with many mineral oil-based lubricants, dilutated acids, aqueous alkaline solutions and other chemical media
- Suitable for long horizontal drag chain travel distances
- Additional robustness thanks to inner sheath
- Wide temperature range for applications in harsh climatic environments
- Copper braiding screens the cable against electromagnetic interference

#### Application range
- Permanently moved power chains or machine parts in harsh environment
- Onshore and offshore applications
- In wet areas within machinery and production or assembly lines
- For use in assembling & pick-and-place machinery
- For indoor and outdoor use

#### Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores</th>
<th>mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0023330</td>
<td>2 X 0.5</td>
<td>6.7</td>
<td>32</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>0023301</td>
<td>3 G 0.5</td>
<td>7.1</td>
<td>40</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>0023302</td>
<td>4 G 0.5</td>
<td>7.6</td>
<td>47</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>0023303</td>
<td>5 G 0.5</td>
<td>8.2</td>
<td>53</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>0023304</td>
<td>7 G 0.5</td>
<td>9.5</td>
<td>67</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>0023305</td>
<td>12 G 0.5</td>
<td>10.9</td>
<td>97</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>0023306</td>
<td>18 G 0.5</td>
<td>12.9</td>
<td>131</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>0023307</td>
<td>25 G 0.5</td>
<td>13.5</td>
<td>156</td>
<td>281</td>
<td></td>
</tr>
<tr>
<td>0023308</td>
<td>30 G 0.5</td>
<td>15.6</td>
<td>190</td>
<td>367</td>
<td></td>
</tr>
<tr>
<td>0023309</td>
<td>36 G 0.5</td>
<td>16.9</td>
<td>222</td>
<td>408</td>
<td></td>
</tr>
<tr>
<td>0023311</td>
<td>2 X 0.75</td>
<td>7.2</td>
<td>40</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>0023312</td>
<td>3 G 0.75</td>
<td>7.6</td>
<td>47</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>0023313</td>
<td>4 G 0.75</td>
<td>8.3</td>
<td>58</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>0023314</td>
<td>5 G 0.75</td>
<td>8.9</td>
<td>65</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>0023315</td>
<td>7 G 0.75</td>
<td>10.6</td>
<td>85</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>0023316</td>
<td>12 G 0.75</td>
<td>12.1</td>
<td>127</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>0023317</td>
<td>18 G 0.75</td>
<td>14.6</td>
<td>198</td>
<td>330</td>
<td></td>
</tr>
<tr>
<td>0023318</td>
<td>20 G 0.75</td>
<td>15.5</td>
<td>213</td>
<td>354</td>
<td></td>
</tr>
<tr>
<td>0023319</td>
<td>25 G 0.75</td>
<td>17.7</td>
<td>259</td>
<td>459</td>
<td></td>
</tr>
<tr>
<td>0023320</td>
<td>30 G 0.75</td>
<td>17.7</td>
<td>296</td>
<td>480</td>
<td></td>
</tr>
<tr>
<td>0023321</td>
<td>36 G 0.75</td>
<td>19.5</td>
<td>348</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>0023322</td>
<td>2 X 1</td>
<td>7.6</td>
<td>45</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>0023323</td>
<td>3 G 1</td>
<td>8.1</td>
<td>55</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>0023324</td>
<td>4 G 1</td>
<td>8.8</td>
<td>68</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>0023325</td>
<td>5 G 1</td>
<td>9.6</td>
<td>81</td>
<td>147</td>
<td></td>
</tr>
<tr>
<td>0023326</td>
<td>7 G 1</td>
<td>11.3</td>
<td>106</td>
<td>196</td>
<td></td>
</tr>
<tr>
<td>0023327</td>
<td>12 G 1</td>
<td>13.2</td>
<td>175</td>
<td>292</td>
<td></td>
</tr>
<tr>
<td>0023328</td>
<td>18 G 1</td>
<td>15.9</td>
<td>242</td>
<td>418</td>
<td></td>
</tr>
</tbody>
</table>

### Product features
- Salt water-resistant according to UL 1309
- Halogen-free and flame-retardant (IEC 60332-1-2)
- Good weather, ozone, UV and oil resistance
- Good notch and abrasion resistance
- Flexible at low temperatures
- EMC-compliant

### Norm references / Approvals
- DNV Det Norske Veritas certified
- Resistant to oil and drilling fluids according to NEK TS 606:2016 and IEC 61892-4
- For use in power chains: Please comply with assembly guideline Appendix T3

### Product Make-up
- Extra-fine wire strand made of bare copper
- Core insulation: TPE
- Cores twisted in short lay lengths
- Non-woven wrapping
- Inner sheath made of TPE
- Tinned copper screen braiding
- Outer sheath made of robust special polymer, colour black

### Additional information

- **Extended Line Performance - Long travel lengths or high acceleration**
- **Resistant to oil and drilling fluids acc. to NEK TS 606:2016 (Oil & Mud)**
- **EMC compliant copper screening**

---

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils). Photographs and graphics are not to scale and do not represent detailed images of the respective products.
**ÖLFLEX® FD 891 P**  
Highly flexible control cable with PVC core insulation and abrasion and oil resistant PUR sheath - certified

### Info
- Core Line Performance - Medium to increased travel lengths or acceleration
- Good oil resistance
- AWM certification for USA and Canada

### Benefits
- Multi-standard certification reduces part varieties and saves costs
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

### Application range
- In power chains or moving machine parts
- Particularly in wet areas of machine tools and transfer lines
- Suitable for use in measuring, control and regulating circuits
- Plant engineering
- In dry, damp or wet interiors with normal mechanical stress conditions

### Product features
- Flame-retardant according to IEC 60332-1-2 & CSA FT1
- High oil-resistance
- Abrasion and notch-resistant
- Low-adhesive surface

### Norm references / Approvals
- UL rec. AWM Style 20234
- CRU AWM II A/B FT 1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

### Technical data
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - Black with white numbers acc. to VDE 0293-1
- Conductor stranding
  - Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- Minimum bending radius
  - Flexing: up from 7.5 × outer diameter
  - Fixed installation: 4 × outer diameter
- Nominal voltage
  - IEC: U0/U 300/500 V
  - UL/CSA: 600 V
- Bending cycles & operation parameters
  - See Selection Table A2-1 in the appendix of our online catalogue

### Test voltage
- 4000 V

### Protective conductor
- G = with GN-YE protective conductor
- X = without protective conductor

### Temperature range
- Flexing: -5°C to +70°C (UL: +80°C)
- Fixed installation: -40°C to +70°C (UL: +80°C)

### Product Make-up
- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: PVC
- Cores twisted in layers in short lay lengths
- Non-woven wrapping
- PUR outer sheath, black (similar RAL 9005)

### Technical data table
<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® FD 891 P</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1028752</td>
<td>2 X 0.5</td>
<td>6.5</td>
<td>9.6</td>
<td>46</td>
</tr>
<tr>
<td>1028607</td>
<td>7 G 0.5</td>
<td>9.6</td>
<td>33.6</td>
<td>118</td>
</tr>
<tr>
<td>1028103</td>
<td>3 G 0.75</td>
<td>7.3</td>
<td>21.6</td>
<td>66</td>
</tr>
<tr>
<td>1028104</td>
<td>4 G 0.75</td>
<td>8</td>
<td>28.8</td>
<td>82</td>
</tr>
<tr>
<td>1028105</td>
<td>5 G 0.75</td>
<td>8.7</td>
<td>36</td>
<td>101</td>
</tr>
<tr>
<td>1028107</td>
<td>7 G 0.75</td>
<td>10.7</td>
<td>50.4</td>
<td>142</td>
</tr>
<tr>
<td>1028112</td>
<td>12 G 0.75</td>
<td>13.9</td>
<td>86.4</td>
<td>196</td>
</tr>
<tr>
<td>1028118</td>
<td>18 G 0.75</td>
<td>13.9</td>
<td>129.6</td>
<td>282</td>
</tr>
<tr>
<td>1028125</td>
<td>25 G 0.75</td>
<td>16.6</td>
<td>180</td>
<td>404</td>
</tr>
<tr>
<td>1028134</td>
<td>34 G 0.75</td>
<td>18.9</td>
<td>244.8</td>
<td>541</td>
</tr>
<tr>
<td>1028150</td>
<td>50 G 0.75</td>
<td>22.5</td>
<td>360</td>
<td>738</td>
</tr>
<tr>
<td>1028303</td>
<td>3 G 1.5</td>
<td>8.4</td>
<td>43.2</td>
<td>98</td>
</tr>
<tr>
<td>1028304</td>
<td>4 G 1.5</td>
<td>9.3</td>
<td>57.6</td>
<td>125</td>
</tr>
<tr>
<td>1028305</td>
<td>5 G 1.5</td>
<td>10.1</td>
<td>72</td>
<td>155</td>
</tr>
<tr>
<td>1028307</td>
<td>7 G 1.5</td>
<td>11.9</td>
<td>100.8</td>
<td>221</td>
</tr>
<tr>
<td>1028312</td>
<td>12 G 1.5</td>
<td>13.9</td>
<td>172.8</td>
<td>318</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
ÖLFLEX® CHAIN 896 P
Highly flexible, halogen-free power cable with low capacitive insulation and oil resistant PUR sheath - certified

Benefits
- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Multi-standard certification reduces part varieties and saves costs
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Longer cable installation lengths thanks to low mutual capacitance cable design
- Wide temperature range for applications in harsh climatic environments

Application range
- In power chains or moving machine parts
- Applications in automation engineering
- Power circuits in industrial machines
- For use in assembling & pick-and-place machinery
- Particularly in wet areas of machine tools and transfer lines
- For indoor and outdoor use

Product features
- Flammability: UL/CsA: VW-1, FT1 IEC/EN: 60332-1-2
- Halogen-free materials
- High oil-resistance
- Low-capacitance design
- Flexible down to -40°C

Norm references / Approvals
- VDE - reg - no. 8661 UL AWM Style 20234 cULus AWM I/II A/B, 1000V 80° FT1 CSA AWM I/II A, 1000V 80° FT1
- UL File No. E63634
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: polypropylene (PP)
- Non-woven wrapping
- PUR outer sheath, black (similar RAL 9005)

Technical data
- Classification ETIM 5/6 ETIM 5.0/6.0 Class-ID: EC000104 ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code Black with white numbers acc. to VDE 0293-1
- Conductor stranding Extra-fine wire according to VDE 0295, class 6/IEC 60228, class 6
- Minimum bending radius Flexing: up from 7.5 × outer diameter (up to 16 mm²) up from 10 × outer diameter (from 25 mm²)
  Fixed installation: 4 × outer diameter
- Nominal voltage IEC U0/U: 600/1000 V UL & CSA: 1000 V
- Bending cycles & operation parameters See Selection Table A2-1 in the appendix of our online catalogue
- Test voltage 4000 V
- Protective conductor G = with GN-YE protective conductor X = without protective conductor
- Temperature range Flexing: -40°C to +90°C (UL/CSA: +80°C)
  Fixed installation: -50°C to +90°C (UL/CSA: +80°C)

### Article number | Number of cores and mm² per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km)
--- | --- | --- | --- | ---
ÖLFLEX® CHAIN 896 P
1023229 | 4 G 1.5 | 9.6 | 58 | 120
1023230 | 5 G 1.5 | 10 | 72 | 143
1023238 | 4 G 2.5 | 11 | 96 | 174
1023239 | 5 G 2.5 | 12 | 120 | 210
1023245 | 4 G 4 | 12.5 | 154 | 242
1023246 | 5 G 4 | 13.7 | 192 | 316
1023248 | 4 G 6 | 14.3 | 231 | 335
1023249 | 5 G 6 | 15.7 | 288 | 439
1023250 | 4 G 10 | 17 | 384 | 503
1023251 | 5 G 10 | 18.9 | 480 | 663
1023252 | 4 G 16 | 21.2 | 615 | 810
1023253 | 5 G 16 | 23.8 | 768 | 1065
1023254 | 4 G 25 | 25.9 | 960 | 1254

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
**ÖLFLEX® ROBOT 900 P**

Abrasion- and oil-resistant PUR robot cable for dynamic bending and torsion motions

**Info**

- Simultaneous bending and torsion
- Torsion angle up to +/- 360 °/m

**Benefits**

- Space-saving installation due to small cable diameters
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments

**Application range**

- Industrial machinery and machine tools
- Automated handling equipment
- Automotive industry
- In power chains or moving machine parts
- Inside of dresspacks of buckling arm robots and for use for gantry robots

**Product features**

- Abrasion and notch-resistant
- Flame-retardant
- High oil-resistance
- Flexible at low temperatures
- Low-adhesive surface

**Norm references / Approvals**

- Designed for up to 5 million torsion cycles
- For use in power chains: Please comply with assembly guideline Appendix T3
- For travel distances up to 10 m.

**Product Make-up**

- Fine or extra-fine strands made of bare copper wire
- Core insulation: TPE
- Cores twisted in layers
- Versions with additional center pair: 2 cores twisted to a pair, PTFE foil wrapping, layer of tinned copper wires
- Wrapping of PTFE tape
- PUR outer sheath, black (similar RAL 9005)

**Technical data**

- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable

- **Core identification code**
  - Up to 0.34 mm²: DIN 47100 cores
  - From 0.5 mm²: black cores with white numbers, cores of screened pair (2 × 1) are marked with no. 1 + 2

- **Mutual capacitance**
  - C/C approx. 100 nF/km
  - C/S approx. 120 nF/km

- **Inductivity**
  - approx. 0.7 mH/km

- **Conductor stranding**
  - Fine wire or extra-fine wire

- **Torsion**
  - Torsion load max. ± 360 °/m

- **Minimum bending radius**
  - For flexible use: 15 × outer diameter
  - Fixed installation: 4 × outer diameter

- **Nominal voltage**
  - Up to 0.34 mm²: 48 V AC
  - From 0.5 mm²: U0/U: 300/500 V

- **Test voltage**
  - Up to 0.34 mm²: 1500 V
  - From 0.5 mm²: 3000 V

- **Protective conductor**
  - G = with GN-YE protective conductor
  - X = without protective conductor

- **Temperature range**
  - Flexing: -40°C to +80°C
  - Fixed installation: -50°C to +80°C

---

**Article number**

- **ÖLFLEX® ROBOT 900 P**
- Core colours according to DIN 47100
  - 0028110 7 X 0.25 6.2 16.9 48
  - 0028116 25 X 0.25 10.2 60 141
  - 0028188 2 X 0.34 5 7 27

- **Numbered Cores**
  - 0028145 18 G 0.5 11.2 86.4 120
  - 0028146 25 G 0.5 13.3 120 254
  - 0028160 4 G 0.75 6.6 28.8 63
  - 0028164 14 G 0.75 11.2 100.8 199
  - 0028170 2 X 1 6.2 19.2 47
  - 0028171 3 G 1 6.5 29.6
  - 0028172 4 G 1 7 38.4 76
  - 0028174 7 G 1 9.3 67.2 131
  - 0028176 12 G 1 11.5 115.2 216
  - 0028185 16 G 1 + (2 × 1) 16 195 376
  - 0028178 18 G 1 13.2 172.8 287
  - 0028186 23 G 1 + (2 × 1) 17.3 262 470
  - 0028180 25 G 1 16.4 240 433
  - 0028190 34 G 1 19.9 326.4 571
  - 0028191 41 G 1 22.3 393.6 705
  - 0028198 18 G 1.5 15.8 259.2 446
  - 0028181 3 G 2.5 9.3 72 136
  - 0028182 4 G 2.5 10.1 96 171
  - 0028400 3 G 16 21.4 460.8 721
  - 0028187 3 G 25 26.2 720 1178
  - 0028189 3 G 35 28.8 1008 1559

- **Article number**
  - 0028176 12 G 1 11.5 115.2 216
  - 0028185 16 G 1 + (2 × 1) 16 195 376
  - 0028178 18 G 1 13.2 172.8 287
  - 0028186 23 G 1 + (2 × 1) 17.3 262 470
  - 0028180 25 G 1 16.4 240 433
  - 0028190 34 G 1 19.9 326.4 571
  - 0028191 41 G 1 22.3 393.6 705
  - 0028198 18 G 1.5 15.8 259.2 446
  - 0028181 3 G 2.5 9.3 72 136
  - 0028182 4 G 2.5 10.1 96 171
  - 0028400 3 G 16 21.4 460.8 721
  - 0028187 3 G 25 26.2 720 1178
  - 0028189 3 G 35 28.8 1008 1559

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
**ÖLFLEX® ROBOT 900 DP**

Shielded, abrasion- and oil-resistant PUR robot cable for dynamic bending and torsion motions

**Benefits**
- Space-saving installation due to small cable diameters
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments
- Copper shielding protects against electromagnetic interference

**Application range**
- Industrial machinery and machine tools
- Automated handling equipment
- Automotive industry
- In power chains or moving machine parts
- Inside of dresspacks of buckling arm robots and for use for gantry robots

**Product features**
- Abrasion and notch-resistant
- Flame-retardant
- High oil-resistance
- Flexible at low temperatures
- Low-adhesive surface

**Norm references / Approvals**
- Designed for up to 5 million torsion cycles
- For use in power chains: Please comply with assembly guideline Appendix T3
- For travel distances up to 10 m.

**Technical data**
- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- **Core identification code**
  - Up to 0.34 mm²: DIN 47100 cores
  - From 0.5 mm²: black cores with white numbers
- **Mutual capacitance**
  - C/C approx. 100 nF/km
  - C/S approx. 120 nF/km
- **Inductivity**
  - approx. 0.7 mH/km
- **Conductor stranding**
  - Fine wire or extra-fine wire
- **Torsion**
  - Torsion load max. ± 180 °/m
- **Minimum bending radius**
  - Flexing: 15 × outer diameter
  - Fixed installation: 4 × outer diameter
- **Nominal voltage**
  - Up to 0.34 mm²: 48 V AC
  - From 0.5 mm²: U0/U: 300/500 V
- **Test voltage**
  - Up to 0.34 mm²: 1500 V
  - From 0.5 mm²: 3000 V
- **Protective conductor**
  - G = with GN-YE protective conductor
  - X = without protective conductor
- **Temperature range**
  - Flexing: -40°C to +80°C
  - Fixed installation: -50°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® ROBOT 900 DP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core colours according to DIN 47100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0028100</td>
<td>12 × 0.14</td>
<td>6.7</td>
<td>42.5</td>
<td>69</td>
</tr>
<tr>
<td>0028105</td>
<td>3 × 2 × 0.14</td>
<td>6.2</td>
<td>17</td>
<td>44</td>
</tr>
<tr>
<td>0028126</td>
<td>25 × 0.25</td>
<td>11.1</td>
<td>103.5</td>
<td>183</td>
</tr>
<tr>
<td>0028135</td>
<td>4 × 0.34</td>
<td>5.7</td>
<td>21.3</td>
<td>46</td>
</tr>
<tr>
<td>0028136</td>
<td>5 × 2 × 0.34</td>
<td>9.1</td>
<td>64.4</td>
<td>114</td>
</tr>
<tr>
<td>Numbered Cores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0028195</td>
<td>12 G 1.5</td>
<td>14</td>
<td>259</td>
<td>395</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

For current information see: www.lappgroup.com
Power and control cables
Robotics • Torsion, articulated robot, certified

ÖLFLEX® ROBOT F1 (C)
Shielded, abrasion- and oil-resistant PUR robot cable for high dynamic bending and torsion motions, UL/cUL AWM certified

Info
- Simultaneous bending and torsion
- Torsion angle up to +/- 180 °/m
- AWM certification for USA and Canada

Benefits
- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments
- Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
- Industrial machinery and machine tools
- Automated handling equipment
- Automotive industry
- In power chains or moving machine parts
- Inside of dresspacks of buckling arm robots and for use for gantry robots

Product features
- Abrasion and notch-resistant
- Flame-retardant
- High oil-resistance
- Flexible at low temperatures
- Low-adhesive surface

Norm references / Approvals
- UL AWM Style 20940
- UL File No. E213974
- Designed for up to 10 million torsion cycles
- For use in power chains: Please comply with assembly guideline Appendix T3
- For travel distances up to 10 m.

Product Make-up
- Extra-fine strands, 0.14 – 0.5 mm² made of tinned copper wires, bare above
- Core insulation: TPE
- Cores (or core pairs) twisted in layers or bundles
- Wrapping made of tinned copper wires for versions with individually screened pairs
- Wrapping of PTFE tape
- Spiral shield of tinned copper wires, version 12 G 1,5 and 18 G 1,5 with screen braiding
- PUR outer sheath, black (similar RAL 9005)

Technical data
- Classification ETIM 5/6
- ETIM 5.0/6.0 Class-ID: EC000104
- ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - Up to 0.34 mm²: DIN 47100 cores
  - From 0.5 mm²: white cores with black numbers, cores of screened pair (2 × 1) are marked with no. 5 + 6
- Conductor stranding
  - Extra-fine wire
- Torsion
  - Torsion load max. ± 180 °/m
- Minimum bending radius
  - Fixed installation: 4 × outer diameter
- Nominal voltage
  - IEC: up to 0.34 mm²: 250 Vss.
  - 0.5 - 2.5 mm²: U0/U: 300/500 V
  - UL/CSA: up to 1.5 mm²: 600 V, from 2.5 mm²: 1000 V
- Test voltage
  - Up to 0.34 mm²: 1500 V
  - From 0.5 mm²: 2000 V
- Protective conductor
  - G = with GN-YE protective conductor
  - X = without protective conductor
- Temperature range
  - Flexing: -40°C to +80°C
  - Fixed installation: -50°C to +80°C

Article number Number of cores and mm² per conductor Outer diameter (mm) Copper index (kg/km) Weight (kg/km)

ÖLFLEX® ROBOT F1 (C)
Core colours according to DIN 47100

- 0029653 3 X 2 × 0.25 8 38 100
- 0029654 25 X 0.25 13.8 115 280
- 0029655 2 X 0.34 5.2 18 54
- 0029656 3 X 0.34 5.4 20 56
- 0029657 4 X 0.34 6.6 28 72
- 0029658 5 X 2 × 0.34 10.2 69 158

Numbered Cores
- 0029689 12 G 1.5 15.4 230 380
- 0029690 18 G 1.5 18.5 340 550
- 0029664 4 G 1.5 8.8 75.1 120
- 0029665 4 G 2.5 10.3 116 200
- 0029691 4 G 1.5 + (2 × 1) 11 116 213
- 0029692 4 G 2.5 + (2 × 1) 12 150 270

Unless specified otherwise, the shown product values are nominal values at room temperature. Detailed values (e.g. tolerances) are available upon request.

For current information see: www.lappgroup.com

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).
## Benefits
- Weather-resistant for harsh environmental conditions
- Highly flexible due to extra-fine wire conductor design
- Cables up to a max. 24 cores can also be used in power chains

## Application range
- Machinery and equipment that are permanently exposed to the weather; conveying and hoisting equipment; construction machinery; shipyard machinery
- Suitable for use in special conditions, such as not more than 2 weeks without interruption of submersion in industrial or sea water
- The application profiles for ÖLFLEX® CRANE cables can be found in the catalogue appendix, technical table T4; for ÖLFLEX® LIFT cables please see the catalogue appendix, selection table A3

## Technical data
### Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC001578
ETIM 5.0/6.0 Class-Description: Flexible cable

### Core identification code
Up to 5 cores: colour-coded according to VDE 0293-308, refer to Appendix T9
From 6 cores: black with white numbers

### Conductor stranding
0.15 mm wire diameter at 1 mm²
0.2 mm wire diameter from 1.5 mm²

### Minimum bending radius
Flexible use: 12.5 × outer diameter
Fixed installation: 6 × outer diameter

### Nominal voltage
U0/U: 300/500 V
Test voltage: 3000 V

### Protective conductor
G = with GN-YE protective conductor
X = without protective conductor

### Temperature range
Flexible use: -25°C to +80°C
Fixed installation: -40°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Tensile strength (N)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® CRANE</td>
<td>00390001 2 X 1</td>
<td>7.4</td>
<td>300</td>
<td>19.2</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>00390002 3 G 1</td>
<td>8.3</td>
<td>300</td>
<td>28.8</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>00390033 4 G 1</td>
<td>8.9</td>
<td>300</td>
<td>38.4</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>00390043 5 G 1</td>
<td>10.4</td>
<td>300</td>
<td>48</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>0039107 7 G 1</td>
<td>12.9</td>
<td>300</td>
<td>67.2</td>
<td>206</td>
</tr>
<tr>
<td></td>
<td>0039109 9 G 1</td>
<td>14.4</td>
<td>300</td>
<td>86.4</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>00390054 12 G 1</td>
<td>18.5</td>
<td>300</td>
<td>115.2</td>
<td>422</td>
</tr>
<tr>
<td></td>
<td>00390055 18 G 1</td>
<td>19.2</td>
<td>300</td>
<td>172.8</td>
<td>541</td>
</tr>
<tr>
<td></td>
<td>00390056 24 G 1</td>
<td>22.1</td>
<td>720</td>
<td>230.4</td>
<td>646</td>
</tr>
<tr>
<td></td>
<td>00390057 36 G 1</td>
<td>26.1</td>
<td>1080</td>
<td>345.6</td>
<td>863</td>
</tr>
<tr>
<td></td>
<td>00390017 2 X 1.5</td>
<td>8</td>
<td>300</td>
<td>28.8</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>00390018 3 G 1.5</td>
<td>8.7</td>
<td>300</td>
<td>43.2</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>00390193 4 G 1.5</td>
<td>9.9</td>
<td>300</td>
<td>57.6</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>00390203 5 G 1.5</td>
<td>10.9</td>
<td>300</td>
<td>72</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>0039061 7 G 1.5</td>
<td>14</td>
<td>315</td>
<td>100.8</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td>00390208 8 G 1.5</td>
<td>15.2</td>
<td>300</td>
<td>115.2</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>0039209 9 G 1.5</td>
<td>15.9</td>
<td>405</td>
<td>129.6</td>
<td>375</td>
</tr>
<tr>
<td></td>
<td>0039210 10 G 1.5</td>
<td>17</td>
<td>450</td>
<td>144</td>
<td>427</td>
</tr>
<tr>
<td></td>
<td>0039058 12 G 1.5</td>
<td>19.9</td>
<td>540</td>
<td>172.8</td>
<td>557</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Tensile strength (N)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0039059 18 G 1.5</td>
<td>20.9</td>
<td>810</td>
<td>259.2</td>
<td>608</td>
</tr>
<tr>
<td></td>
<td>0039060 24 G 1.5</td>
<td>23.4</td>
<td>1080</td>
<td>345.6</td>
<td>825</td>
</tr>
<tr>
<td></td>
<td>0039034 2 X 2.5</td>
<td>2 X 2.5</td>
<td>9.7</td>
<td>300</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>0039035 3 G 2.5</td>
<td>3 G 2.5</td>
<td>10.2</td>
<td>300</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>0039036 4 G 2.5</td>
<td>4 G 2.5</td>
<td>11.6</td>
<td>300</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>0039037 5 G 2.5</td>
<td>5 G 2.5</td>
<td>12.4</td>
<td>375</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>0039039 7 G 2.5</td>
<td>16.5</td>
<td>525</td>
<td>168</td>
<td>378</td>
</tr>
<tr>
<td></td>
<td>0039040 9 G 2.5</td>
<td>18.9</td>
<td>675</td>
<td>216</td>
<td>518</td>
</tr>
<tr>
<td></td>
<td>0039041 12 G 2.5</td>
<td>23.3</td>
<td>900</td>
<td>288</td>
<td>770</td>
</tr>
<tr>
<td></td>
<td>0039046 16 G 2.5</td>
<td>27.8</td>
<td>1200</td>
<td>384</td>
<td>749</td>
</tr>
<tr>
<td></td>
<td>0039316 18 G 2.5</td>
<td>24.5</td>
<td>1350</td>
<td>432</td>
<td>837</td>
</tr>
<tr>
<td></td>
<td>0039043 24 G 2.5</td>
<td>28.5</td>
<td>1800</td>
<td>576</td>
<td>1184</td>
</tr>
<tr>
<td></td>
<td>0039045 4 G 4</td>
<td>15.2</td>
<td>480</td>
<td>153.6</td>
<td>307</td>
</tr>
<tr>
<td></td>
<td>0039047 5 G 4</td>
<td>16.8</td>
<td>600</td>
<td>192</td>
<td>394</td>
</tr>
<tr>
<td></td>
<td>0039048 4 G 6</td>
<td>16.8</td>
<td>720</td>
<td>230.4</td>
<td>409</td>
</tr>
<tr>
<td></td>
<td>0039049 5 G 6</td>
<td>19.2</td>
<td>900</td>
<td>288</td>
<td>528</td>
</tr>
<tr>
<td></td>
<td>0039050 6 G 6</td>
<td>21.8</td>
<td>1200</td>
<td>384</td>
<td>698</td>
</tr>
<tr>
<td></td>
<td>0039051 7 G 6</td>
<td>24.6</td>
<td>1500</td>
<td>480</td>
<td>853</td>
</tr>
<tr>
<td></td>
<td>0039052 8 G 6</td>
<td>27.4</td>
<td>1800</td>
<td>576</td>
<td>1184</td>
</tr>
<tr>
<td></td>
<td>0039053 9 G 6</td>
<td>30</td>
<td>2160</td>
<td>714</td>
<td>1478</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

**Copper price basis:** EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

**Packaging size:** coil ≤ 30 kg or ≤ 250 m, otherwise drum.

**Photographs and graphics are not to scale and do not represent detailed images of the respective products.**

For current information see: www.lappgroup.com
Power and control cables
Conveyor technology • Reelable

ÖLFLEX® CRANE NSHTÖU
Reelable cables for low and medium mechanical stress

Benefits
• Can be used as hawser, drum and towing cable as well as for energy supply chains
• Integrated supporting braid prevents undesirable cable twists, and the formation of so-called corkscrew effects

Application range
• For use in hoists, transport and conveyor systems
• Reeling/unreeling during operation without fixing
• In dry or damp interiors, outdoors, or not more than 2 weeks without interruption in industrial water
• The application profiles for ÖLFLEX® CRANE and ÖLFLEX® LIFT cables can be found in the appendix, selection table A3
• The assembly and handling guidelines for ÖLFLEX® CRANE cables can be found in the catalogue appendix, technical table T4; for ÖLFLEX® LIFT cables please see the catalogue appendix, technical table T5

Product features
• Flame-retardant according IEC 60332-1-2
• Oil-resistant according to EN 60811-404
• Good chemical, thermal and mechanical-resistance
• UV-resistant

Norm references / Approvals
• <VDE> NSHTÖU cable type certification acc. VDE 0250-814

Technical data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000057
ETIM 5.0/6.0 Class-Description: Low voltage power cable

Core identification code
Up to 5 cores: colour-coded according to VDE 0293-308, refer to Appendix T9
From 6 cores: black with white numbers

Conductor stranding
Fine wire according to VDE 0295, Class 5/IEC 60228, Class 5

Minimum bending radius
Flexible use:
- Cables with outer diameter < 21.5 mm: 5 × outer diameter
- Cables with outer diameter > 21.5 mm: 6.25 × outer diameter

Nominal voltage
U0/U: 600/1000 V

Test voltage
4000 V

Protective conductor
G = with GN-YE protective conductor
X = without protective conductor

Current rating
VDE 0298 Part 4

Temperature range
Flexible use: -25°C to +80°C

Article number | Number of cores and mm² per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km)
---|---|---|---|---
0043018 | 24 G 2.5 | 31.6 | 576 | 1450
0043019 | 30 G 2.5 | 36.3 | 720 | 1950
00430203 | 4 G 4 | 18.4 | 153.6 | 440
00430333 | 5 G 4 | 19.6 | 192 | 520
00430213 | 4 G 6 | 19.8 | 230.4 | 530
00430343 | 5 G 6 | 21.7 | 288 | 690
00430223 | 4 G 10 | 23.4 | 384 | 830
00430003 | 5 G 10 | 25.2 | 480 | 1000
00430233 | 4 G 16 | 25.5 | 614.4 | 1170
00430323 | 5 G 16 | 27.5 | 708 | 1400
00430243 | 4 G 25 | 32.6 | 960 | 1830
00430253 | 4 G 35 | 34.8 | 1344 | 2280
00430263 | 4 G 50 | 40.6 | 1920 | 3220
00430283 | 4 G 70 | 44.8 | 2688 | 4200
00430293 | 4 G 95 | 51.2 | 3648 | 5530

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
ÖLFLEX® CRANE VS (N)SHTÖU
Reelable cables for medium to high mechanical stress

Info
- Reinforced outer sheath design
- Central and tear-resistant supporting element
- Suitable for extreme tensile stress

Benefits
- The central supporting element absorbs the tensile loads that occur, thereby allowing reeling, unreeling and deflection for free-hanging cables even over large distances
- Reeling, unreeling and guiding operations also impose tensile stresses on the cables
- Integrated supporting braid prevents undesirable cable twists, and the formation of so-called corkscrew effects

Application range
- For use in hoists, transport and conveyor systems
- Cables are reeled, unreeled, and guided by roller trains
- In dry or damp interiors, outdoors, or not more than 2 weeks without interruption in industrial water
- The application profiles for ÖLFLEX® CRANE and ÖLFLEX® LIFT cables can be found in the appendix, section table A3
- The assembly and handling guidelines for ÖLFLEX® CRANE cables can be found in the catalogue appendix, technical table T5

Product features
- Flame-retardant according IEC 60332-1-2
- Oil-resistant according to EN 60811-404
- Good chemical, thermal and mechanical-resistance

Norm references / Approvals
- Based on VDE 0250-814 (NSHTÖU)

Product Make-up
- Strands of tinned-copper wires
- Core insulation: rubber compound, type 3GI3
- Central supporting element
- Support braid integrated in the outer sheath
- Outer sheath: rubber compound, type 5GM5

Technical data
- Classification ETIM 5/6
- ETIM 5.0/6.0 Class-ID: EC000057
- ETIM 5.0/6.0 Class-Description: Low voltage power cable
- Core identification code
  - Up to 5 cores: colour-coded according to VDE 0293-308, refer to Appendix T9
  - From 6 cores: black with white numbers
- Conductor stranding
  - Fine wire according to VDE 0295, Class 5/IEC 60228, Class 5
- Minimum bending radius
  - Flexible use: 7.5 × outer diameter
- Nominal voltage
  - U0/U: 600/1000 V
- Test voltage
  - 3000 V
- Protective conductor
  - G = with GN-YE protective conductor
  - X = without protective conductor
- Current rating
  - VDE 298 Part 4
- Temperature range
  - Flexible use: -25°C to +80°C

Technical data table

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Tensile strength (N)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® CRANE VS (N)SHTÖU</td>
<td>7 G 1.5</td>
<td>18.8</td>
<td>2000</td>
<td>100.8</td>
<td>430</td>
</tr>
<tr>
<td>0044008</td>
<td>12 G 1.5</td>
<td>25.3</td>
<td>2000</td>
<td>172.8</td>
<td>820</td>
</tr>
<tr>
<td>0044009</td>
<td>18 G 1.5</td>
<td>25.3</td>
<td>2000</td>
<td>259.2</td>
<td>930</td>
</tr>
<tr>
<td>0044010</td>
<td>24 G 1.5</td>
<td>30.1</td>
<td>2000</td>
<td>345.6</td>
<td>1260</td>
</tr>
<tr>
<td>0044011</td>
<td>36 G 1.5</td>
<td>34</td>
<td>2000</td>
<td>516.4</td>
<td>1650</td>
</tr>
<tr>
<td>0044036</td>
<td>7 G 2.5</td>
<td>21.6</td>
<td>2000</td>
<td>168</td>
<td>630</td>
</tr>
<tr>
<td>0044015</td>
<td>12 G 2.5</td>
<td>29.4</td>
<td>2000</td>
<td>288</td>
<td>1150</td>
</tr>
<tr>
<td>0044016</td>
<td>18 G 2.5</td>
<td>29.4</td>
<td>2000</td>
<td>384</td>
<td>1120</td>
</tr>
<tr>
<td>00440333</td>
<td>5 G 4</td>
<td>19.6</td>
<td>2000</td>
<td>192</td>
<td>510</td>
</tr>
<tr>
<td>00440223</td>
<td>4 G 10</td>
<td>23.4</td>
<td>2000</td>
<td>384</td>
<td>830</td>
</tr>
<tr>
<td>00440233</td>
<td>4 G 16</td>
<td>25.5</td>
<td>2000</td>
<td>518.4</td>
<td>1650</td>
</tr>
<tr>
<td>00440253</td>
<td>4 G 16</td>
<td>25.5</td>
<td>2000</td>
<td>614.4</td>
<td>1170</td>
</tr>
<tr>
<td>00440263</td>
<td>4 G 25</td>
<td>32.6</td>
<td>3000</td>
<td>768</td>
<td>1400</td>
</tr>
<tr>
<td>00440273</td>
<td>4 G 25</td>
<td>32.6</td>
<td>3000</td>
<td>960</td>
<td>1850</td>
</tr>
<tr>
<td>00440283</td>
<td>4 G 35</td>
<td>34.8</td>
<td>4000</td>
<td>1344</td>
<td>2250</td>
</tr>
<tr>
<td>00440293</td>
<td>5 G 16</td>
<td>27.5</td>
<td>2400</td>
<td>768</td>
<td>1400</td>
</tr>
<tr>
<td>00440323</td>
<td>4 G 25</td>
<td>32.6</td>
<td>3000</td>
<td>960</td>
<td>1850</td>
</tr>
<tr>
<td>00440353</td>
<td>4 G 35</td>
<td>34.8</td>
<td>4000</td>
<td>1344</td>
<td>2250</td>
</tr>
<tr>
<td>00440263</td>
<td>4 G 50</td>
<td>40.6</td>
<td>6000</td>
<td>1920</td>
<td>3200</td>
</tr>
<tr>
<td>00440283</td>
<td>4 G 70</td>
<td>44.8</td>
<td>8000</td>
<td>2688</td>
<td>4200</td>
</tr>
<tr>
<td>00440293</td>
<td>4 G 95</td>
<td>51.2</td>
<td>11000</td>
<td>3648</td>
<td>5550</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Power and control cables
Conveyor technology • Reelable

ÖLFLEX® CRANE PUR
Reelable polyurethane cables for low, medium and high mechanical stress

Benefits
- Designed with a smaller outer diameter to save space and weight
- Cost-saving due to the use of smaller drums, guide rollers, as well as drive engines when possible
- Reeling, unreeling and guiding operations also impose tensile stresses on the cables
- The central supporting element absorbs the tensile loads that occur, thereby allowing reeling, unreeling and deflection for free-hanging cables even over large distances
- Integrated supporting braid prevents undesirable cable twists, and the formation of so-called corkscrew effects

Application range
- For use in hoists, transport and conveyor systems
- Cables are reeled, unreeled, and guided by roller trains
- In dry or damp interiors, outdoors, or not more than 2 weeks without interruption in industrial water

ÖLFLEX® CRANE and ÖLFLEX® LIFT cables can be found in the appendix, selection table A3
- The assembly and handling guidelines for ÖLFLEX® CRANE cables can be found in the catalogue appendix, technical table T4; for ÖLFLEX® LIFT cables please see the catalogue appendix, technical table T5

Product features
- Halogen-free and flame-retardant (IEC 60811-404)
- Good chemical, thermal and mechanical-resistance

Product Make-up
- Conductor made of bare copper wires
- Core insulation: TPE compound
- Central supporting element
- Support braid integrated in the outer sheath
- Outer sheath: PUR compound, halogen-free

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000057
  ETIM 5.0/6.0 Class-Description: Low voltage power cable
- Core identification code
  Up to 5 cores: colour-coded according to VDE 0293-308, refer to Appendix T9 From 6 cores: black with white numbers
- Conductor stranding
  Extra-fine wire according to VDE 0295, class 6/IEC 60228 class 6
- Minimum bending radius
  Flexible use: 7.5 x outer diameter
- Nominal voltage
  U0/U: 600/1000 V
- Test voltage
  4000 V
- Protective conductor
  G = with GN-YE protective conductor
  X = without protective conductor
- Current rating
  VDE 298 Part 4
- Temperature range
  Flexible use: -40°C to +80°C

Table: ÖLFLEX® CRANE PUR

<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Tensile strength (N)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0045225</td>
<td>4 G 4</td>
<td>10.9</td>
<td>500</td>
<td>57.6</td>
<td>169</td>
</tr>
<tr>
<td>0045226</td>
<td>5 G 5</td>
<td>11.6</td>
<td>1000</td>
<td>72</td>
<td>197</td>
</tr>
<tr>
<td>0045227</td>
<td>6 G 6</td>
<td>12.9</td>
<td>2500</td>
<td>100.8</td>
<td>239</td>
</tr>
<tr>
<td>0045228</td>
<td>7 G 7</td>
<td>13.9</td>
<td>2500</td>
<td>172.8</td>
<td>401</td>
</tr>
<tr>
<td>0045229</td>
<td>8 G 8</td>
<td>15.0</td>
<td>2500</td>
<td>259.2</td>
<td>507</td>
</tr>
<tr>
<td>0045230</td>
<td>10 G 10</td>
<td>17.5</td>
<td>2500</td>
<td>345.6</td>
<td>673</td>
</tr>
<tr>
<td>0045231</td>
<td>12 G 12</td>
<td>19.9</td>
<td>3000</td>
<td>432</td>
<td>1100</td>
</tr>
<tr>
<td>0045232</td>
<td>16 G 16</td>
<td>21.4</td>
<td>3000</td>
<td>518.4</td>
<td>1350</td>
</tr>
<tr>
<td>0045233</td>
<td>20 G 20</td>
<td>23.4</td>
<td>3000</td>
<td>605.2</td>
<td>1844</td>
</tr>
<tr>
<td>0045234</td>
<td>25 G 25</td>
<td>25.5</td>
<td>3000</td>
<td>702</td>
<td>2614</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Power and control cables

ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies

ÖLFLEX® CONNECT SERVO Basic Line according to Siemens 6FX5002 (PVC)

Info

- Connector with novel, safe screen connection
- For static applications
- Other versions and lengths available upon request

Benefits

- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard

Application range

- Food production and packaging machinery
- Woodworking Machinery

Product features

- PVC servo cable, shielded
- Basic Line for static and slowly moving applications with resistant PVC outer mantle
- Innovative connector concept

Norm references / Approvals

- Design according to SIEMENS® standard 6FX5002
- Flame-retardant according to IEC 60332-1-2, VW-1, FT1

Product Make-up

- Full range of types
- Brake wire with 1.5 mm² wire gauge

Technical data

- Core identification code
- Power cores: black with marking U/L1/C/L+; V/L2; W/L3/D/L-; GN/ YE protective conductor
- Single-paired versions: black; white Double-paired versions: black with white numbers 5; 6; 7; 8
- 0.34 mm² pairs: WH/BN/GN/YE
- Conductor stranding
- Fine wire according to IEC 60228/VDE 0295, Class 5
- Minimum bending radius
- Occasional flexing: 15 x outer diameter
- Fixed installation: 6 x outer diameter
- Nominal voltage
- Power cores and control cores: IEC U0/U: 600/1000 V
- UL & CSA: 1000 V
- Test voltage
- Core/Core: 4 kV
- Core/Screen: 4 kV
- Protective conductor
- G = with GN-YE protective conductor
- Temperature range
- Occasional flexing: -5 °C to +70 °C (UL/CSA: +80 °C)
- Fixed installation: -30 °C to +80 °C (UL/CSA: +80 °C)

Article number | Length (m) | Article designation | OD in mm | Quality of cable | Number of cores and mm² per conductor | Copper index (kg/km)
---|---|---|---|---|---|---
5480002690 | 10 | 2DC10 | 7 | PVC | 2x(2x0.15)+2x0.38 mm² | 37
5480002715 | 10 | 2DC20 | 7 | PVC | 2x(2x0.15)+2x0.38 mm² | 37
5480002990 | 10 | 5CN05 | 8 | PVC | 4 G 1.5 mm² | 88
5480003015 | 10 | 5CN11 | 9.6 | PVC | 4 G 2.5 mm² | 132
5480003240 | 10 | 5CD28 | 8 | PVC | 4 G 1.5 mm² | 88
5480003365 | 10 | 5CS01 | 8 | PVC | 4 G 1.5 mm² | 88
5480003565 | 10 | 5CS31 | 9.6 | PVC | 4 G 2.5 mm² | 132
5480004290 | 10 | 5DD28 | 10.4 | PVC | 4 G 1.5+(2x1.5) mm² | 167
5480004415 | 10 | 5DS01 | 10.4 | PVC | 4 G 1.5+(2x1.5) mm² | 167
5480004515 | 10 | 5DS31 | 12 | PVC | 4 G 2.5+(2x1.5) mm² | 194

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Siemens part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further Article and length online https://servoconfigurator.lappgroup.com/

For current information see: www.lappgroup.com


**ÖLFLEX® CONNECT SERVO Core Line for Siemens 6FX5002 (PVC)**

![Image of cable](image)

**Benefits**
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67
- For medium dynamic applications: for travel distance up to 10 m and up to 5 mio. bending cycles

**Application range**
- Food production and packaging machinery
- Woodworking Machinery
- For static applications

**Product features**
- Core Line PVC for light duty power chain applications
- New PVC servo cable, shielded
- Innovative connector concept

**Norm references / Approvals**
- Design according to SIEMENS® standard 6FX-5002

**Product Make-up**
- Brake wire with 1.5 mm² wire gauge

**Technical data**

<table>
<thead>
<tr>
<th>Core identification code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply cores: colored with white printing; Brown with white printing: V / L2, Black with white printing: U/L1/C/L-</td>
</tr>
<tr>
<td>Gray with white printing: W/L3/D/L/GN/GE protective conductor control wires: WS, SW</td>
</tr>
</tbody>
</table>

**Conductor stranding**
- Fine wire according to VDE 0295, Class 5 / IEC 60228, Class 5

**Minimum bending radius**
- Chain application: 7.5 x cable diameter
- Fixed installation: 4 x cable diameter

**Nominal voltage**
- Power cores and control cores: IEC U0/U: 600/1000 V
- UL & CSA: 1000 V

**Test voltage**
- Core/Core: 4 kV
- Core/Screen: 4 kV

**Protective conductor**
- G = with GN-YE protective conductor

**Alternating bending cycles**
- 5 mio. cycles

**Temperature range**
- Occasional flexing: -5 °C to +70 °C
- (UL/CSA: +80 °C)
- Fixed installation: -40 °C to +70 °C
- (UL/CSA: +80 °C)

---

### Article number | Length (m) | Article designation | OD in mm | Quality of cable | Number of cores and mm² per conductor | Copper index (kg/km)
--- | --- | --- | --- | --- | --- | ---
5480007020 | 10 | 5CA05 | 9.4 | PVC | 4 G 1.5 mm² | 81
5480007090 | 10 | 5CA15 | 11.1 | PVC | 4 G 2.5 mm² | 120
5480007051 | 10 | 5CN01 | 9.4 | PVC | 4 G 1.5 mm² | 81
5480007650 | 10 | 5CN11 | 11.1 | PVC | 4 G 2.5 mm² | 120
5480007720 | 10 | 5CN21 | 9.4 | PVC | 4 G 1.5 mm² | 81
5480007790 | 10 | 5CN31 | 11.1 | PVC | 4 G 2.5 mm² | 120
5480008210 | 10 | 5CQ15 | 11.1 | PVC | 4 G 2.5 mm² | 120
5480008630 | 10 | 5CS01 | 9.4 | PVC | 4 G 1.5 mm² | 81

---

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150 / 100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Siemens part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further Article and length online [https://servoconfigurator.lappgroup.com/](https://servoconfigurator.lappgroup.com/)
ÖLFLEX® CONNECT SERVO Core Line for Siemens 6FX8002 (PUR)

Benefits
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67

Application range
- Specifically for machine tool building
- Assembly and assembly machinesproduction lines
- For highly dynamic applications: for travel distance up to 10 m and up to 10 mio. bending cycles
- Chain application

Product features
- New PUR servo cable, halogen-free & shielded
- Innovative connector concept
- Core Line PUR for highly dynamic power chain application

Norm references / Approvals
- Design according to SIEMENS® standard 6FX-8002

Product Make-up
- Brake wire with 1.5 mm² wire gauge

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>Article designation</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5480005390</td>
<td>10</td>
<td>5CS31</td>
<td>11.5</td>
<td>PUR</td>
<td>4 G 2.5 mm²</td>
<td>120</td>
</tr>
<tr>
<td>5480006655</td>
<td>10</td>
<td>5CN01</td>
<td>10</td>
<td>PUR</td>
<td>4 G 1.5 mm²</td>
<td>81</td>
</tr>
<tr>
<td>5480007055</td>
<td>10</td>
<td>5CN11</td>
<td>11.5</td>
<td>PUR</td>
<td>4 G 2.5 mm²</td>
<td>120</td>
</tr>
<tr>
<td>5480007665</td>
<td>10</td>
<td>5CS31</td>
<td>11.5</td>
<td>PUR</td>
<td>4 G 1.5 mm²</td>
<td>81</td>
</tr>
<tr>
<td>5480007065</td>
<td>10</td>
<td>5CS01</td>
<td>10</td>
<td>PUR</td>
<td>4 G 1.5 mm²</td>
<td>81</td>
</tr>
<tr>
<td>5480007065</td>
<td>10</td>
<td>5CS06</td>
<td>10</td>
<td>PUR</td>
<td>4 G 1.5 mm²</td>
<td>81</td>
</tr>
<tr>
<td>54800070115</td>
<td>10</td>
<td>5CS11</td>
<td>11.5</td>
<td>PUR</td>
<td>4 G 2.5 mm²</td>
<td>120</td>
</tr>
<tr>
<td>54800070215</td>
<td>10</td>
<td>5CS21</td>
<td>10</td>
<td>PUR</td>
<td>4 G 1.5 mm²</td>
<td>81</td>
</tr>
<tr>
<td>54800070365</td>
<td>10</td>
<td>5DN11</td>
<td>14.4</td>
<td>PUR</td>
<td>4 G 2.5+(2x1.5) mm²</td>
<td>202.8</td>
</tr>
<tr>
<td>54800070410</td>
<td>10</td>
<td>5DN41</td>
<td>16.3</td>
<td>PUR</td>
<td>4 G 4+(2x1.5) mm²</td>
<td>270.2</td>
</tr>
<tr>
<td>54800070510</td>
<td>10</td>
<td>5DS01</td>
<td>12.8</td>
<td>PUR</td>
<td>4 G 1.5+(2x1.5) mm²</td>
<td>143</td>
</tr>
<tr>
<td>54800070620</td>
<td>10</td>
<td>5CS06</td>
<td>10</td>
<td>PUR</td>
<td>4 G 1.5 mm²</td>
<td>81</td>
</tr>
<tr>
<td>54800070720</td>
<td>10</td>
<td>5DS31</td>
<td>14.4</td>
<td>PUR</td>
<td>4 G 2.5+(2x1.5) mm²</td>
<td>202.8</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for definition and calculation of copper-related surcharges.

Siemens part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further Article and length online https://servoconfigurator.lappgroup.com/
Power and control cables

ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies

ÖLFLEX® CONNECT SERVO Extended Line according to Siemens 6FX8002 (PUR)

Benefits
• Regional manufactured worldwide available
• LAPP quality standards
• Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard

Application range
• Specifically for machine tool building
• Designed for power chain use: for travel distances up to 100 m (horizontal)
• For very high dynamic motion sequences

Product features
• Extended Line for high mechanical stress in Power chains
• Proven for highes dynamic stresses and long distances

Norm references / Approvals
• Design according to SIEMENS® standard 6FX 8002
• Flame-retardant according to IEC 60332-1-2, VW-1, FT1

Product Make-up
• Full range of types
• Brake wire with 1.5mm² wire gauge

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>Article designation</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>54800000015</td>
<td>10</td>
<td>2AD00</td>
<td>6.9</td>
<td>PUR</td>
<td>3x2x0.14 mm²+4x0.14 mm²+2x0.5 mm²</td>
<td>68</td>
</tr>
<tr>
<td>54800000065</td>
<td>10</td>
<td>2AH00</td>
<td>8.8</td>
<td>PUR</td>
<td>4x2x0.34 mm²+4x0.3 mm²</td>
<td>79</td>
</tr>
<tr>
<td>54800000165</td>
<td>10</td>
<td>2CA31</td>
<td>8.9</td>
<td>PUR</td>
<td>3x2x0.14 mm²+4x0.14 mm²+4x0.22 mm²+2x0.5 mm²</td>
<td>80</td>
</tr>
<tr>
<td>54800000290</td>
<td>10</td>
<td>2CH00</td>
<td>8.9</td>
<td>PUR</td>
<td>3x2x0.14 mm²+4x0.14 mm²+2x0.5 mm²</td>
<td>68</td>
</tr>
<tr>
<td>54800000390</td>
<td>10</td>
<td>2DC10</td>
<td>7.2</td>
<td>PUR</td>
<td>2x(2x0.15)+2x0.38 mm²</td>
<td>38</td>
</tr>
<tr>
<td>54800000415</td>
<td>10</td>
<td>2DC20</td>
<td>7.2</td>
<td>PUR</td>
<td>2x(2x0.15)+2x0.38 mm²</td>
<td>38</td>
</tr>
<tr>
<td>54800000440</td>
<td>10</td>
<td>2EQ10</td>
<td>8.9</td>
<td>PUR</td>
<td>3x2x0.14 mm²+4x0.14 mm²+4x0.22 mm²+2x0.5 mm²</td>
<td>80</td>
</tr>
<tr>
<td>5480004940</td>
<td>10</td>
<td>5CN51</td>
<td>14.4</td>
<td>PUR</td>
<td>4 G 6 mm²</td>
<td>296</td>
</tr>
<tr>
<td>5480005290</td>
<td>10</td>
<td>5CS13</td>
<td>17.6</td>
<td>PUR</td>
<td>4 G 10 mm²</td>
<td>449</td>
</tr>
<tr>
<td>5480005440</td>
<td>10</td>
<td>5CS51</td>
<td>14.4</td>
<td>PUR</td>
<td>4 G 6 mm²</td>
<td>296</td>
</tr>
<tr>
<td>5480005990</td>
<td>10</td>
<td>5DN51</td>
<td>17</td>
<td>PUR</td>
<td>4 G 6 mm²+(2x1.5) mm²</td>
<td>329</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 177 for the definition and calculation of copper-related surcharges.

Siemens part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further Article and length online https://servoconfigurator.lappgroup.com/
**Benefits**
- Regional manufactured worldwide available
- LAPP quality standards

**Application range**
- Specifically for machine tool building
- For highly dynamic applications
- Assembly and assembly machines production lines
- Chain application

**Product features**
- New PUR servo cable, halogen-free & shielded
- Innovative connector concept

**Note**
- Please comply with the assembly guidelines for cables in power chain systems
- Maximum cable length must comply with the specifications set by the manufacturer of the respective servo drives
- The technical data correspond to the cables used

**Product Make-up**
- Other versions and lengths can be delivered upon request

---

**Technical data**

- **Core identification code**
  - Supply cores: colored with white printing, Brown with white printing: V / L2, Black with white printing: U / L1 / C / L +
  - Gray with white printing: W / L3 / D / LGN / GE protective conductor control wires: WS / SW

- **Conductor stranding**
  - Fine wire according to VDE 0295
  - Class 5 / IEC 60228, Class 5

- **Minimum bending radius**
  - Chain application: 7.5 x cable diameter
  - Fixed installation: 4 x cable diameter

- **Nominal voltage**
  - Power cores and control cores:
    - IEC U0/U: 600/1000 V
    - UL & CSA: 1000 V
  - Test voltage:
    - Core/Core: 4 kV
    - Core/Screen: 4 kV

- **Protective conductor**
  - G = with GN-YE protective conductor

- **Temperature range**
  - Flexing: -40°C to +90°C
  - (UL/CSA: +80°C)
  - Fixed installation: -50°C to +90°C
  - (UL/CSA: +80°C)

---

**Article number** | **Length (m)** | **Article designation** | **OD in mm** | **Quality of cable** | **Number of cores and mm² per conductor** | **Copper index (kg/km)**
--- | --- | --- | --- | --- | --- | ---
5460000023 | 10 | IKS4042 | 8.5 | PUR | 4x2x0.25+2x0.5 | 53
5460000024 | 10 | IKS4038 | 9.7 | PUR | 4x1+4x2x0.14+4x0.14 | 81
5460000025 | 10 | IKS4012 | 9.7 | PUR | 4x1+4x2x0.14+4x0.14 | 81
5460000026 | 10 | IKS0204 | 8.5 | PUR | 4x2x0.25+2x0.5 | 53
5460000016 | 10 | RKL4303 | 11.5 | PUR | 4 G 1.0+(2x0.75) | 159
5460000017 | 10 | RKL4308 | 15.1 | PUR | 4 G 2.5+(2x1) | 212
5460000018 | 10 | RKL4300 | 12.2 | PUR | 4 G 1.5+(2x0.75) | 159
5460000019 | 10 | RKL4304 | 12.2 | PUR | 4 G 1.5+(2x0.75) | 159
5460000020 | 10 | IKG4115 | 12.2 | PUR | 4 G 1.5+(2x0.75) | 159
5460000021 | 10 | IKG4139 | 15.1 | PUR | 4 G 2.5+(2x1) | 212
5460000022 | 10 | IKG4177 | 16 | PUR | 4 G 4+(2x1)+(2x1.5) | 306

---

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Indramat part designations (IKG, IKS, INK, INS, RKL and RKG) are registered trademarks of Bosch Rexroth AG, and are listed for comparison purposes only.

Article numbers refer to genuine LAPP products.

Other designs and lengths are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further Article and length online https://servoconfigurator.lappgroup.com/

---

For current information see: www.lappgroup.com
Power and control cables

ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies

Benefits
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67

Application range
- Food production and packaging machinery
- Woodworking Machinery
- For static applications
- For medium dynamic applications

Product features
- Core Line PVC for light duty power chain applications
- New PVC servo cable, shielded
- Innovative connector concept
- Design according to Lenze® standard
- Other versions and lengths available upon request

Technical data

Core identification code
Supply cores: colored with white printing, Brown with white printing: V / L2, Black with white printing: U/L1/C/L + Gray with white printing: W/L3/D/L-GN/GE protective conductor wires: WS; SW

Conductor stranding
Fine wire according to VDE 0295 Class 5 / IEC 60228, Class 5

Minimum bending radius
Chain application:7.5 x cable diameter
Fixed installation: 4 x cable diameter

Nominal voltage
Power cores and control cores: IEC U0/U: 600/1000 V
UL & CSA: 1000 V

Test voltage
Core/Core: 4 kV
Core/Screen: 4 kV

Protective conductor
G = with GN-YE protective conductor

Alternating bending cycles
5 mio. cycles

Temperature range
Occasional flexing: -5 °C to +70 °C (UL/CSA: +80 °C)
Fixed installation: -40 °C to +70 °C (UL/CSA: +80 °C)

Technical data table

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Outer dimensions (mm)</th>
<th>Article designation</th>
<th>Cable cross section</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5450000268</td>
<td>10</td>
<td>12.2</td>
<td>PVC</td>
<td>12.2</td>
<td>EYP-0003-A-1000-M04-A00</td>
<td>4 G1.5+(2x1)</td>
<td>138</td>
</tr>
<tr>
<td>5450000269</td>
<td>10</td>
<td>12.2</td>
<td>PVC</td>
<td>12.2</td>
<td>EYP-0004-A-1000-M04-A00</td>
<td>4 G 1.5+(2x1)</td>
<td>138</td>
</tr>
<tr>
<td>5450000270</td>
<td>10</td>
<td>13.7</td>
<td>PVC</td>
<td>13.7</td>
<td>EYP-0005-A-1000-M04-A00</td>
<td>4 G 2.5+(2x1)</td>
<td>181</td>
</tr>
<tr>
<td>5450000271</td>
<td>10</td>
<td>12.2</td>
<td>PVC</td>
<td>12.2</td>
<td>EYP-0003-A-1000-M01-A00</td>
<td>4 G 1.5+(2x1)</td>
<td>138</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150 / 100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Lenze® part designations (EWLM, EWLR, EWLE, EWLL, EYL and EYP) are registered trademarks of Lenze® AG, and are listed for comparison purposes only. DESINA® is a registered trademark of the German Machine Tool Builders’ Association.

Article numbers refer to genuine LAPP products.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Further Article and length online https://servoconfigurator.lappgroup.com/

Bending radius: Resolver cable 15x Outer diameter
Power and control cables

ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies

Benefits
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67

Application range
- Specifically for machine tool building
- Assembly and assembly machines production lines
- For highly dynamic applications: for travel distance up to 10 m and up to 10 mio. bending cycles
- Chain application

Product features
- New PUR servo cable, halogen-free & shielded
- Innovative connector concept
- Core Line PUR for highly dynamic power chain application
- Design according to Lenze® standard
- Other versions and lengths available upon request

Technical data

Core identification code
Supply cores: colored with white printing, Brown with white printing: V / L2, Black with white printing: U/L1/C/L +
Gray with white printing: W/L3/D/L-GE
Protective conductor control wires: WS, SW

Conductor stranding
Fine wire according to IEC 60228 / VDE 0295, Class 5

Minimum bending radius
Chain application: 7.5 x cable diameter
Fixed installation: 4 x cable diameter

Nominal voltage
Power cores and control cores:
IEC U0/U: 600/1000 V
UL & CSA: 1000 V

Test voltage
Core/Core: 4 kV
Core/Screen: 4 kV

Protective conductor
G = with GN-YE protective conductor

Alternating bending cycles
10 mio. cycles

Temperature range
Flexing: -40°C to +90°C
(UL/CSA: +80°C)
Fixed installation: -50°C to +90°C
(UL/CSA: +80°C)

Table of product data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>Article designation</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5450000118</td>
<td>10</td>
<td>EYF-0020-A-1000-F01-A00</td>
<td>9.2</td>
<td>PUR</td>
<td>3x(2x0.14)+3x0.14</td>
<td>40</td>
</tr>
<tr>
<td>5450000122</td>
<td>10</td>
<td>EYF-0019-A-1000-A00-W04</td>
<td>11.5</td>
<td>PUR</td>
<td>4x(2x0.14)+2x1</td>
<td>65</td>
</tr>
<tr>
<td>5450000123</td>
<td>10</td>
<td>EYF-0019-A-1000-A00-S03</td>
<td>11.5</td>
<td>PUR</td>
<td>4x(2x0.14)+2x1</td>
<td>65</td>
</tr>
<tr>
<td>5450000124</td>
<td>10</td>
<td>EYF-0019-A-1000-F06-W04</td>
<td>11.5</td>
<td>PUR</td>
<td>4x(2x0.14)+2x1</td>
<td>65</td>
</tr>
<tr>
<td>5440000125</td>
<td>10</td>
<td>EYF-0019-A-1000-F06-S03</td>
<td>11.5</td>
<td>PUR</td>
<td>4x(2x0.14)+2x1</td>
<td>65</td>
</tr>
<tr>
<td>5450000242</td>
<td>10</td>
<td>EYP-0010-A-1000-M04-A00</td>
<td>12.3</td>
<td>PUR</td>
<td>4 G 1.5x(2x1)</td>
<td>138</td>
</tr>
<tr>
<td>5450000243</td>
<td>10</td>
<td>EYP-0011-A-1000-M04-A00</td>
<td>12.3</td>
<td>PUR</td>
<td>4 G 1.5+2x1</td>
<td>138</td>
</tr>
<tr>
<td>5450000244</td>
<td>10</td>
<td>EYP-0012-A-1000-M04-A00</td>
<td>13.8</td>
<td>PUR</td>
<td>4 G 2.5+2x1</td>
<td>181</td>
</tr>
<tr>
<td>5450000245</td>
<td>10</td>
<td>EYP-0010-A-1000-M01-A00</td>
<td>12.3</td>
<td>PUR</td>
<td>4 G 1.5+2x1</td>
<td>138</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
Lenze® part designations (EWLM_, EWLR_, EWLE_, EWLL_, EYL and EYP) are registered trademarks of Lenze® AG, and are listed for comparison purposes only. DESINA® is a registered trademark of the German Machine Tool Builders’ Association.
Article numbers refer to genuine LAPP products.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Further article and length online https://servoconfigurator.lappgroup.com/
Power and control cables

ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies

ÖLFLEX® CONNECT SERVO Core Line acc. SEW (PVC)

Benefits
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof IP67

Application range
- Food production and packaging machinery
- Woodworking Machinery
- For static applications
- For medium dynamic applications

Product features
- Core Line PVC for light duty power chain applications
- New PVC servo cable, shielded
- Innovative connector concept
- Design according to SEW® standard
- Other versions and lengths available upon request

Technical data

<table>
<thead>
<tr>
<th>Core identification code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply cores: colored with white printing, Brown with white printing: V / L1/L2 / L+</td>
</tr>
<tr>
<td>Gray with white printing: W/L3/D/L/GN/GE</td>
</tr>
<tr>
<td>Protective conductor wires: WS; SW</td>
</tr>
</tbody>
</table>

Conductor stranding
- Fine wire according to VDE 0295
- Class 5 / IEC 60228, Class 5

Minimum bending radius
- Chain application: 7,5 x cable diameter
- Fixed installation: 4 x cable diameter

Nominal voltage
- Power cores and control cores: IEC U0/U: 600/1000 V
- UL & CSA: 1000 V

Test voltage
- Core/Core: 4 kV
- Core/Screen: 4 kV

Protective conductor
- G = with GN-YE protective conductor

Alternating bending cycles
- 5 mio. cycles

Temperature range
- Occasional flexing: -5 °C to +70 °C
- (UL/CSA: +80 °C)
- Fixed installation: -40 °C to +70 °C
- (UL/CSA: +80 °C)

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further Article and length online https://servoconfigurator.lappgroup.com/

Bendingradius: Resolver cable 15x Outerdiameter

### Article number Length (m) Article designation OD in mm Quality of cable Number of cores and mm² per conductor Copper index (kg/km)

<table>
<thead>
<tr>
<th>ÖLFLEX® CONNECT SERVO Core Line acc. SEW (PVC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>54400000011 10 01994875 8.4 PVC 5x2x0.25 51.6</td>
</tr>
<tr>
<td>54400000012 10 13327429 8.4 PVC 5x2x0.25 51.6</td>
</tr>
<tr>
<td>54400000013 10 13602659 8.4 PVC 5x2x0.25 51.6</td>
</tr>
<tr>
<td>54400000014 10 13234535 9 PVC 6x2x0.25 58.5</td>
</tr>
<tr>
<td>54400000015 10 1321998 9 PVC 6x2x0.25 58.5</td>
</tr>
<tr>
<td>54400000016 10 18127843 9 PVC 6x2x0.25 58.5</td>
</tr>
<tr>
<td>5440000171 10 13324853 12.5 PVC 4 G 1.5+(3x1) 144.2</td>
</tr>
<tr>
<td>5440000172 10 1332139 13.9 PVC 4 G 2.5+(3x1) 187.2</td>
</tr>
<tr>
<td>5440000173 10 1332147 16.5 PVC 4 G 4+(3x1) 270.9</td>
</tr>
</tbody>
</table>

SEW® is a registered trademark of SEW Eurodrive GmbH & Co KG, Ernst-Blickle Str. 42, D-76646 Bruchsal
Article numbers refer to genuine LAPP products.

Further information and length online https://servoconfigurator.lappgroup.com/


**ÖLFLEX® CONNECT SERVO Core Line acc. SEW (PUR)**

### Benefits
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67

### Application range
- Specifically for machine tool building
- Assembly and assembly machines production lines
- For highly dynamic applications: for travel distance up to 10 m and up to 10 mio. bending cycles
- Chain application

### Product features
- New PUR servo cable, halogen-free & shielded
- Innovative connector concept
- Core Line PUR for highly dynamic power chain application
- Design according to SEW® standard
- Other versions and lengths available upon request

### Technical data
- **Core identification code**
  - Supply cores: colored with white printing, Brown with white printing: V / L2, Black with white printing: U / L1/C/L +
  - Gray with white printing: W/L3/D/L-
  - GN/GE protective conductor control wires: WS; SW
- **Conductor stranding**
  - Fine wire according to IEC 60228 / VDE 0295, class 5
- **Minimum bending radius**
  - Chain application: 7.5 x cable diameter
  - Fixed installation: 4 x cable diameter
- **Nominal voltage**
  - Power cores and control cores: IEC U0/U: 600/1000 V
  - UL & CSA: 1000 V
- **Test voltage**
  - Core/Core: 4 kV
  - Core/Screen: 4 kV
- **Protective conductor**
  - G = with GN-YE protective conductor
- **Alternating bending cycles**
  - 10 mio. cycles
- **Temperature range**
  - Flexing: -40°C to +90°C
  - (UL/CSA: +80°C)
  - Fixed installation: -50°C to +90°C
  - (UL/CSA: +80°C)

### Table: ÖLFLEX® CONNECT SERVO Core Line nach SEW (PUR)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>Article designation</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5440000105</td>
<td>10</td>
<td>01993194</td>
<td>8.4</td>
<td>PUR</td>
<td>5x2x0.25</td>
<td>51.6</td>
</tr>
<tr>
<td>5440000106</td>
<td>10</td>
<td>13327437</td>
<td>8.4</td>
<td>PUR</td>
<td>5x2x0.25</td>
<td>51.6</td>
</tr>
<tr>
<td>5440000108</td>
<td>10</td>
<td>13324551</td>
<td>9.4</td>
<td>PUR</td>
<td>6x2x0.25</td>
<td>58.5</td>
</tr>
<tr>
<td>5440000174</td>
<td>10</td>
<td>13331221</td>
<td>12.9</td>
<td>PUR</td>
<td>4 G 1+(3x1)</td>
<td>144.2</td>
</tr>
<tr>
<td>5440000175</td>
<td>10</td>
<td>13332155</td>
<td>14.1</td>
<td>PUR</td>
<td>4 G 2.5+(3x1)</td>
<td>187.2</td>
</tr>
<tr>
<td>5440000176</td>
<td>10</td>
<td>13332163</td>
<td>16.3</td>
<td>PUR</td>
<td>4 G 4+(3x1)</td>
<td>270.9</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

SEW® is a registered trademark of SEW Eurodrive GmbH & Co KG, Ernst-Blickle Str. 42, D-76646 Bruchsal

Article numbers refer to genuine LAPP products.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For further information and length online: https://servoconfigurator.lappgroup.com/

For current information see: www.lappgroup.com
Power and control cables

ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies

ÖLFLEX® CONNECT SERVO Core Line acc. Allen Bradley / Rockwell (PVC)

Benefits
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67

Application range
- Food production and packaging machinery
- Woodworking Machinery
- For static applications
- For medium dynamic applications: for travel distance up to 10 m and up to 5 mio. bending cycles

Product features
- Core Line PVC for light duty power chain applications
- New PVC servo cable, shielded
- Innovative connector concept
- Design according to ROCKWELL® standard
- Other versions and lengths available upon request

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>Article designation</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5490000061</td>
<td>10</td>
<td>2090-CPBM7E7-16AA</td>
<td>12.7</td>
<td>PVC</td>
<td>4 G 1.5+(2x1.5)</td>
<td>142.7</td>
</tr>
<tr>
<td>5490000053</td>
<td>10</td>
<td>2090-CPBM7DF-16AA</td>
<td>12.7</td>
<td>PVC</td>
<td>4 G 1.5+(2x1.5)</td>
<td>142.7</td>
</tr>
<tr>
<td>5490000057</td>
<td>10</td>
<td>2090-CPWM7DF-16AA</td>
<td>8</td>
<td>PVC</td>
<td>4 G 1.5</td>
<td>81</td>
</tr>
<tr>
<td>5490000059</td>
<td>10</td>
<td>2090-CPWM7DF-14AA</td>
<td>11.1</td>
<td>PVC</td>
<td>4 G 2.5</td>
<td>120</td>
</tr>
<tr>
<td>5490000055</td>
<td>10</td>
<td>2090-CPBM7DF-14AA</td>
<td>4.3</td>
<td>PVC</td>
<td>4 G 2.5+(2x1.5)</td>
<td>202.8</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Siemens part designations (6FX5002/5008, 6FX7002/7018, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request. Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Bendingradius: Resolvercable 15x Outerdiameter
Resolver Corescode acc. DIN 47100
Allen Bradley / Rockwell part designations are registered trademarks of Allen Bradley / Rockwell, and are listed for comparison purposes only.
Power and control cables

**ÖLFLEX® CONNECT Systems Solutions • ÖLFLEX® CONNECT Servo assemblies**

---

**ÖLFLEX® CONNECT SERVO Core Line acc. Allen Bradley / Rockwell (PUR)**

**Info**
- Connector with novel, safe screen connection
- Other versions and lengths available upon request

**Benefits**
- Regional manufactured worldwide available
- LAPP quality standards
- Semi-automated production process ensures higher reliability and accordingly a globally standardised quality standard
- Improved EMC shielding (6dB) through new connector design (size 1/M23)
- Tamper proof (connector cannot be opened)
- Vibration-proof
- IP67

**Application range**
- Specifically for machine tool building
- For highly dynamic applications: for travel distance up to 10 m and up to 10 mio. bending cycles
- Assembly and assembly machines production lines
- Chain application

**Product features**
- New PUR servo cable, halogen-free & shielded
- Innovative connector concept
- Core Line PUR for highly dynamic power chain application
- Design according to ROCKWELL® standard
- Other versions and lengths available upon request

**Technical data**
- Core identification code
  Supply cores: colored with white printing, white printing:
  V / L2, Black with white printing:
  U/L1/C/L +
  Gray with white printing:
  W/L3/D/L/GN/GE protective conductor/ control wires: WS; SW

**Conductor stranding**
- Fine wire according to IEC 60228 / VDE 0295, class 5

**Minimum bending radius**
- Chain application: 7,5 x cable diameter
- Fixed installation: 4 x cable diameter

**Nominal voltage**
- Power cores and control cores: IEC U0/U: 600/1000 V
- UL & CSA: 1000 V

**Test voltage**
- Core/Core: 4 kV
- Core/Screen: 4 kV

**Protective conductor**
- G = with GN-YE protective conductor

**Alternating bending cycles**
- 10 mio. cycles

**Temperature range**
- Flexing: -40°C to +90°C (UL/CSA: +80°C)
- Fixed installation: -50°C to +90°C (UL/CSA: +80°C)

---

<table>
<thead>
<tr>
<th>Article number</th>
<th>Length (m)</th>
<th>Article designation</th>
<th>OD in mm</th>
<th>Quality of cable</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5490000029</td>
<td>10</td>
<td>2090-CFBM4DD-CEAF</td>
<td>10.6</td>
<td>PUR</td>
<td>6x2x0.34</td>
<td>86.2</td>
</tr>
<tr>
<td>5490000031</td>
<td>10</td>
<td>2090-CFBM7EF-CEAF</td>
<td>10.6</td>
<td>PUR</td>
<td>6x2x0.34</td>
<td>86.2</td>
</tr>
<tr>
<td>5490000030</td>
<td>10</td>
<td>2090-CFBM4EF-CEAF</td>
<td>10.6</td>
<td>PUR</td>
<td>6x2x0.34</td>
<td>86.2</td>
</tr>
<tr>
<td>5490000054</td>
<td>10</td>
<td>2090-CPBM7DF-16AF</td>
<td>12.8</td>
<td>PUR</td>
<td>4 G 1.5+(2x1.5)</td>
<td>143</td>
</tr>
<tr>
<td>5490000056</td>
<td>10</td>
<td>2090-CPBM7DF-14AF</td>
<td>14.4</td>
<td>PUR</td>
<td>4 G 2.5+(1x1.5)</td>
<td>202.28</td>
</tr>
<tr>
<td>5490000039</td>
<td>10</td>
<td>2090-CPBM7DF-10AF</td>
<td>17.4</td>
<td>PUR</td>
<td>4 G 6+(2x1.5)</td>
<td>347.8</td>
</tr>
<tr>
<td>5490000058</td>
<td>10</td>
<td>2090-CPWM7DF-16AF</td>
<td>9.2</td>
<td>PUR</td>
<td>4 G 1.5</td>
<td>81</td>
</tr>
<tr>
<td>5490000060</td>
<td>10</td>
<td>2090-CPWM7DF-14AF</td>
<td>11.5</td>
<td>PUR</td>
<td>4 G 2.5</td>
<td>120</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Siemens part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Further article and length online https://servoconfigurator.lappgroup.com/

 Resolver Corecode acc. DIN 47100

 Allen Bradley / Rockwell part designations are registered trademarks of Allen Bradley / Rockwell, and are listed for comparison purposes only.

For current information see: www.lappgroup.com
UNITRONIC®
Data communication systems

Our high-quality UNITRONIC® data network cables and field bus components provide a forward-looking solution for all applications in industrial machinery and plant engineering. From transmission of simple control signals to field bus signals in complex network structures – we offer a dependable cabling and connection solution for almost every situation.

Application range
• Industrial machinery and plant engineering
• Sensors and actuating elements
• Appliances
• Measurement and control technology
• Automated production processes and industrial robots
• Bus systems
• Computing and communication systems
Data communication systems

Low frequency data transmission cables • Highly flexible application

UNITRONIC® FD

Highly flexible data transmission cable with PVC outer sheath for power chain use

Benefits
- Well-proven and reliable
- Optimized cable construction for power chain use
- Cost-effective solution

Application range
- Automated production processes require data transmission cables that offer high flexibility and durability
- Suitable for use in measuring, control and regulating circuits
- Assembly lines, production lines, in all kinds of machines

Product features
- Low-adhesive surface
- Flame-retardant according IEC 60332-1-2
- Designed for 2 up to 8 million bending/unbending cycles in power chain applications

Norm references / Approvals
- Based on VDE 0812
- For travel distances up to 10 m
- For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
- Extra-fine wire strand made of bare copper wires
- Core insulation made of PVC
- Non-woven wrapping
- Outer sheath made of PVC
- Outer sheath colour: grey (RAL 7001)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000104</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Control cable</td>
</tr>
</tbody>
</table>

Core identification code
- DIN 47100, refer to Appendix T9

Mutual capacitance
- C/C: approx. 100 nF/km

Inductivity
- approx. 0.65 mH/km

Conductor stranding
- Stranded, extra-fine wire

Minimum bending radius
- Flexing: 5 × outer diameter
- Fixed installation: 3 × outer diameter

Test voltage
- 1500 V

Temperature range
- Flexing: -5°C to +70°C
- Fixed installation: -40°C to +80°C

Article number | Number of cores and mm² per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITRONIC® FD</td>
<td>3 × 0.14</td>
<td>3.9</td>
<td>4.2</td>
<td>26</td>
</tr>
<tr>
<td>0027841</td>
<td>4 × 0.14</td>
<td>4.2</td>
<td>5.6</td>
<td>31</td>
</tr>
<tr>
<td>0027842</td>
<td>5 × 0.14</td>
<td>4.5</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>0027843</td>
<td>7 × 0.14</td>
<td>5.1</td>
<td>9.8</td>
<td>50</td>
</tr>
<tr>
<td>0027844</td>
<td>10 × 0.14</td>
<td>6.1</td>
<td>14</td>
<td>63</td>
</tr>
<tr>
<td>0027845</td>
<td>14 × 0.14</td>
<td>6.2</td>
<td>19.6</td>
<td>77</td>
</tr>
<tr>
<td>0027846</td>
<td>18 × 0.14</td>
<td>6.8</td>
<td>25.2</td>
<td>91</td>
</tr>
<tr>
<td>0027847</td>
<td>25 × 0.14</td>
<td>8.3</td>
<td>35</td>
<td>125</td>
</tr>
<tr>
<td>0027848</td>
<td>3 × 0.25</td>
<td>4.3</td>
<td>5</td>
<td>27</td>
</tr>
<tr>
<td>0027849</td>
<td>5 × 0.25</td>
<td>4.9</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>0027850</td>
<td>7 × 0.25</td>
<td>5.3</td>
<td>12.5</td>
<td>45</td>
</tr>
<tr>
<td>0027851</td>
<td>10 × 0.25</td>
<td>6.1</td>
<td>17.5</td>
<td>59</td>
</tr>
<tr>
<td>0027852</td>
<td>14 × 0.25</td>
<td>7.4</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>0027853</td>
<td>18 × 0.25</td>
<td>7.5</td>
<td>35</td>
<td>108</td>
</tr>
<tr>
<td>0027854</td>
<td>25 × 0.25</td>
<td>8.5</td>
<td>45</td>
<td>130</td>
</tr>
<tr>
<td>0027855</td>
<td>10 × 0.25</td>
<td>10.4</td>
<td>62.5</td>
<td>178</td>
</tr>
<tr>
<td>0027856</td>
<td>14 × 0.25</td>
<td>12.5</td>
<td>75</td>
<td>205</td>
</tr>
<tr>
<td>0027857</td>
<td>18 × 0.25</td>
<td>15.5</td>
<td>90</td>
<td>255</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Data communication systems
Low frequency data transmission cables • Highly flexible application

UNITRONIC® FD CY
Screened highly flexible data transmission cable with PVC outer sheath for power chain use

Benefits
• Well-proven and reliable
• Optimized cable construction for power chain use
• Cost-effective solution
• Overall braid minimises electrical interference

Application range
• Automated production processes require data transmission cables that offer high flexibility and durability, as well as excellent screening
• Suitable for use in measuring, control and regulating circuits
• Assembly lines, production lines, in all kinds of machines

Product features
• Low-adhesive surface
• Flame-retardant according IEC 60332-1-2
• Designed for 2 up to 8 million bending/unbending cycles in power chain applications

Norm references / Approvals
• Based on VDE 0812
• For travel distances up to 10 m.
• For use in power chains: Please comply with assembly guideline Appendix T3

Product Make-up
• Extra-fine wire strand made of bare copper wires
• Core insulation made of PVC
• Non-woven wrapping
• Tinned-copper braiding
• Outer sheath made of PVC
Outer sheath colour: grey (RAL 7001)

Technical data
Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000104
ETIM 5.0/6.0 Class-Description: Control cable

Core identification code
DIN 47100, refer to Appendix T9

Mutual capacitance
C/C approx. 1 10 nF/km
C/S: approx. 1 10 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Stranded, extra-fine wire

Minimum bending radius
Flexing: 7.5 x outer diameter
Fixed installation: 4 x Outer diameter

Test voltage
1500 V

Temperature range
Flexing: -5°C to +70°C
Fixed installation: -40°C to +80°C

Article number Number of cores and mm² per conductor Outer diameter (mm) Copper index (kg/km) Weight (kg/km)

UNITRONIC® FD CY
0027411 3 × 0.14 4.5 14.1 37
0027412 4 × 0.14 4.8 15.5 42
0027413 5 × 0.14 5.1 18.3 47
0027414 7 × 0.14 5.7 27.6 55
0027416 10 × 0.14 6.7 39.3 63
0027418 14 × 0.14 6.8 45.3 96
0027420 18 × 0.14 7.4 54.1 105
0027422 25 × 0.14 8.9 68.4 163
0027425 2 × 0.25 4.9 14.9 39
0027426 3 × 0.25 5.1 18.8 46
0027427 4 × 0.25 5.5 21.3 53
0027428 5 × 0.25 5.9 31 71
0027429 7 × 0.25 6.7 39.6 75
0027431 10 × 0.25 8.2 53.9 100
0027434 14 × 0.25 8.3 64.2 120
0027436 18 × 0.25 9.1 78.4 167
0027438 25 × 0.26 11 101 221
0027440 2 × 0.34 5.3 16.1 47
0027441 3 × 0.34 5.6 28.7 55
0027442 4 × 0.34 6 35.7 76
0027443 5 × 0.34 6.5 39.1 80
0027444 7 × 0.34 7.4 52.7 104
0027446 10 × 0.34 9.1 67.4 115
0027448 14 × 0.34 9.2 85.3 132
0027450 18 × 0.34 10.3 99.7 225

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems

UNITRONIC® FD Li2YCY (TP) A BE

Shielded, low-capacitance, twisted-pair PE/PVC data cable for power chain/cable carrier, UL AWM for USA+CAN

Technical data

Core identification code
UNITRONIC® FD Li2YCY (TP) A BE: DIN 47100, refer to Appendix T9

Mutual capacitance
Up to 0.5 mm²: 60 nF/km
Up to 1.0 mm²: 70 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Fine wire
From 0.5 mm²: Finest wire/Conductor class & acc. to IEC 60228

Minimum bending radius
Flexing: 7.5 ∗ outer diameter
Fixed installation: 4 ∗ outer diameter

Loop resistance
Ohmic (DC) and loop/bidirectional @ 20 °C
0.14 mm² (26 AWG): 276.0 Ω/km
0.25 mm² (24 AWG): 158.0 Ω/km
0.33 mm² (22 AWG): 110.8 Ω/km
0.50 mm² (21 AWG): 78.0 Ω/km
0.75 mm² (19 AWG): 52.0 Ω/km
1.00 mm² (17 AWG): 39.0 Ω/km

Temperature range
Flexing:
VDE: -5 °C to 70 °C
UL AWM: -5 °C to 80 °C
Stationary use:
VDE: -40 °C to 70 °C
UL AWM: -5 °C to 80 °C

Table: UNITRONIC® FD Li2YCY (TP) A BE

<table>
<thead>
<tr>
<th>Article number</th>
<th>Dimension and cross section in mm²</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031377</td>
<td>1 × 2 × 0.14</td>
<td>4.3</td>
<td>23</td>
</tr>
<tr>
<td>0031378</td>
<td>2 × 2 × 0.14</td>
<td>5.9</td>
<td>42</td>
</tr>
<tr>
<td>0031379</td>
<td>3 × 2 × 0.14</td>
<td>6.2</td>
<td>47</td>
</tr>
<tr>
<td>0031380</td>
<td>4 × 2 × 0.14</td>
<td>6.7</td>
<td>57</td>
</tr>
<tr>
<td>0031381</td>
<td>5 × 2 × 0.14</td>
<td>7.3</td>
<td>68</td>
</tr>
<tr>
<td>0031382</td>
<td>6 × 2 × 0.14</td>
<td>7.5</td>
<td>86</td>
</tr>
<tr>
<td>0031383</td>
<td>8 × 2 × 0.14</td>
<td>8.8</td>
<td>109</td>
</tr>
<tr>
<td>0031384</td>
<td>10 × 2 × 0.14</td>
<td>10.1</td>
<td>120</td>
</tr>
<tr>
<td>0031385</td>
<td>12 × 2 × 0.14</td>
<td>9.8</td>
<td>150</td>
</tr>
<tr>
<td>0031386</td>
<td>14 × 2 × 0.25</td>
<td>4.7</td>
<td>27</td>
</tr>
<tr>
<td>0031387</td>
<td>2 × 2 × 0.25</td>
<td>6.6</td>
<td>57</td>
</tr>
<tr>
<td>0031388</td>
<td>3 × 2 × 0.25</td>
<td>7.6</td>
<td>72</td>
</tr>
<tr>
<td>0031389</td>
<td>4 × 2 × 0.25</td>
<td>7.6</td>
<td>85</td>
</tr>
<tr>
<td>0031390</td>
<td>5 × 2 × 0.25</td>
<td>8.5</td>
<td>92</td>
</tr>
<tr>
<td>0031391</td>
<td>6 × 2 × 0.25</td>
<td>8.8</td>
<td>114</td>
</tr>
<tr>
<td>0031392</td>
<td>8 × 2 × 0.25</td>
<td>10.3</td>
<td>145</td>
</tr>
<tr>
<td>0031393</td>
<td>10 × 2 × 0.25</td>
<td>11.8</td>
<td>182</td>
</tr>
<tr>
<td>0031394</td>
<td>14 × 2 × 0.25</td>
<td>12</td>
<td>213</td>
</tr>
<tr>
<td>0031395</td>
<td>25 × 2 × 0.25</td>
<td>16.3</td>
<td>310</td>
</tr>
<tr>
<td>0031396</td>
<td>1 × 2 × 0.34</td>
<td>5.1</td>
<td>36</td>
</tr>
<tr>
<td>0031397</td>
<td>2 × 2 × 0.34</td>
<td>7.3</td>
<td>69</td>
</tr>
<tr>
<td>0031398</td>
<td>3 × 2 × 0.34</td>
<td>8.9</td>
<td>93</td>
</tr>
<tr>
<td>0031399</td>
<td>4 × 2 × 0.34</td>
<td>8.7</td>
<td>106</td>
</tr>
<tr>
<td>0031400</td>
<td>5 × 2 × 0.34</td>
<td>9.7</td>
<td>136</td>
</tr>
<tr>
<td>0031401</td>
<td>6 × 2 × 0.34</td>
<td>10</td>
<td>165</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article number</th>
<th>Dimension and cross section in mm²</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031402</td>
<td>8 × 2 × 0.34</td>
<td>11.8</td>
<td>221</td>
</tr>
<tr>
<td>0031403</td>
<td>10 × 2 × 0.34</td>
<td>13.7</td>
<td>274</td>
</tr>
<tr>
<td>0031404</td>
<td>1 × 2 × 0.50</td>
<td>5.5</td>
<td>47</td>
</tr>
<tr>
<td>0031405</td>
<td>2 × 2 × 0.50</td>
<td>8.3</td>
<td>99</td>
</tr>
<tr>
<td>0031406</td>
<td>3 × 2 × 0.50</td>
<td>8.8</td>
<td>120</td>
</tr>
<tr>
<td>0031407</td>
<td>4 × 2 × 0.50</td>
<td>9.8</td>
<td>130</td>
</tr>
<tr>
<td>0031408</td>
<td>5 × 2 × 0.50</td>
<td>10.8</td>
<td>164</td>
</tr>
<tr>
<td>0031409</td>
<td>6 × 2 × 0.50</td>
<td>11.3</td>
<td>182</td>
</tr>
<tr>
<td>0031410</td>
<td>8 × 2 × 0.50</td>
<td>13.2</td>
<td>278</td>
</tr>
<tr>
<td>0031411</td>
<td>10 × 2 × 0.50</td>
<td>15.2</td>
<td>325</td>
</tr>
<tr>
<td>0031412</td>
<td>14 × 2 × 0.50</td>
<td>15.5</td>
<td>401</td>
</tr>
<tr>
<td>0031413</td>
<td>1 × 2 × 0.75</td>
<td>5.9</td>
<td>61</td>
</tr>
<tr>
<td>0031414</td>
<td>2 × 2 × 0.75</td>
<td>7.9</td>
<td>104</td>
</tr>
<tr>
<td>0031415</td>
<td>3 × 2 × 0.75</td>
<td>9.8</td>
<td>148</td>
</tr>
<tr>
<td>0031416</td>
<td>4 × 2 × 0.75</td>
<td>10.7</td>
<td>167</td>
</tr>
<tr>
<td>0031417</td>
<td>5 × 2 × 0.75</td>
<td>11.9</td>
<td>202</td>
</tr>
<tr>
<td>0031418</td>
<td>6 × 2 × 0.75</td>
<td>12.3</td>
<td>233</td>
</tr>
<tr>
<td>0031419</td>
<td>8 × 2 × 0.75</td>
<td>14.7</td>
<td>330</td>
</tr>
<tr>
<td>0031420</td>
<td>10 × 2 × 0.75</td>
<td>16.7</td>
<td>390</td>
</tr>
<tr>
<td>0031421</td>
<td>14 × 2 × 0.75</td>
<td>17</td>
<td>515</td>
</tr>
<tr>
<td>0031422</td>
<td>1 × 2 × 1.00</td>
<td>6.3</td>
<td>71</td>
</tr>
<tr>
<td>0031423</td>
<td>2 × 2 × 1.00</td>
<td>9.9</td>
<td>126</td>
</tr>
<tr>
<td>0031424</td>
<td>3 × 2 × 1.00</td>
<td>10.5</td>
<td>167</td>
</tr>
<tr>
<td>0031425</td>
<td>4 × 2 × 1.00</td>
<td>11.8</td>
<td>213</td>
</tr>
<tr>
<td>0031426</td>
<td>5 × 2 × 1.00</td>
<td>13.1</td>
<td>247</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T19 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

For current information see: www.lappgroup.com

325
Data communication systems

Low frequency data transmission cables • Highly flexible and UL/CSA-certified

UNITRONIC® FD Li2YCY (TP) A BA
Shielded, low-capacitance, twisted-pair PE/PVC data cable for power chain/cable carrier, UL AWM for USA+CAN

Benefits
• Improved transmission characteristics thanks to low-capacitance core insulation and twisted pairs
• Cable specification optimized for use in power chain/cable carrier in the USA, on the basis of NFPA 79, Section 12.9.2

Application range
• Suitable for use in measuring, control and regulating circuits
• Linear robots, automated handling equipment
• Use in drag chain/cable carrier/power track - in case of horizontal installation travel distances up to 50 m
• For use in chain/carrier: Please respect the assembly guidelines listed in Appendix T3

Product features
• Low capacitance
• EMC optimized thanks to overall copper braid shielding
• Flexibility for use inside power chain/cable carrier
• Oil-resistant according to DIN EN 50290-2-22 (TM54)
• Flame-retardant acc. to IEC 60332-1-2, UL VW-1, Cable Flame Test, CSA FT 1

Norm references / Approvals
• Based on VDE 0812
• UL AWM Style 2570 80°C 1000V (external interconnection) for USA (UL File No.: E63634) and in line with NFPA 79, Section 12.9.2

Table: Article number, Dimension and cross section (in mm²), Outer diameter (mm), Weight (kg/km)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Dimension and cross section</th>
<th>Outer diameter</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031427</td>
<td>1 × 2 × 0.14</td>
<td>4.3</td>
<td>23</td>
</tr>
<tr>
<td>0031428</td>
<td>2 × 2 × 0.14</td>
<td>5.9</td>
<td>42</td>
</tr>
<tr>
<td>0031429</td>
<td>3 × 2 × 0.14</td>
<td>6.7</td>
<td>47</td>
</tr>
<tr>
<td>0031430</td>
<td>4 × 2 × 0.14</td>
<td>7.3</td>
<td>57</td>
</tr>
<tr>
<td>0031431</td>
<td>5 × 2 × 0.14</td>
<td>7.5</td>
<td>68</td>
</tr>
<tr>
<td>0031432</td>
<td>6 × 2 × 0.14</td>
<td>8.8</td>
<td>86</td>
</tr>
<tr>
<td>0031433</td>
<td>8 × 2 × 0.14</td>
<td>10.1</td>
<td>109</td>
</tr>
<tr>
<td>0031434</td>
<td>10 × 2 × 0.14</td>
<td>10.1</td>
<td>120</td>
</tr>
<tr>
<td>0031435</td>
<td>12 × 2 × 0.14</td>
<td>10.1</td>
<td>120</td>
</tr>
<tr>
<td>0031436</td>
<td>1 × 2 × 0.25</td>
<td>7.6</td>
<td>85</td>
</tr>
<tr>
<td>0031437</td>
<td>2 × 2 × 0.25</td>
<td>8.8</td>
<td>92</td>
</tr>
<tr>
<td>0031438</td>
<td>3 × 2 × 0.25</td>
<td>10.3</td>
<td>114</td>
</tr>
<tr>
<td>0031439</td>
<td>4 × 2 × 0.25</td>
<td>11.8</td>
<td>114</td>
</tr>
<tr>
<td>0031440</td>
<td>5 × 2 × 0.25</td>
<td>12</td>
<td>114</td>
</tr>
<tr>
<td>0031441</td>
<td>6 × 2 × 0.25</td>
<td>16.3</td>
<td>114</td>
</tr>
<tr>
<td>0031442</td>
<td>8 × 2 × 0.25</td>
<td>16.3</td>
<td>114</td>
</tr>
<tr>
<td>0031443</td>
<td>10 × 2 × 0.25</td>
<td>18.2</td>
<td>114</td>
</tr>
<tr>
<td>0031444</td>
<td>14 × 2 × 0.25</td>
<td>21.3</td>
<td>114</td>
</tr>
<tr>
<td>0031445</td>
<td>25 × 2 × 0.25</td>
<td>213</td>
<td>114</td>
</tr>
<tr>
<td>0031446</td>
<td>1 × 2 × 0.34</td>
<td>5.1</td>
<td>36</td>
</tr>
<tr>
<td>0031447</td>
<td>2 × 2 × 0.34</td>
<td>7.3</td>
<td>69</td>
</tr>
<tr>
<td>0031448</td>
<td>3 × 2 × 0.34</td>
<td>8.7</td>
<td>93</td>
</tr>
<tr>
<td>0031449</td>
<td>4 × 2 × 0.34</td>
<td>8.7</td>
<td>106</td>
</tr>
<tr>
<td>0031450</td>
<td>5 × 2 × 0.34</td>
<td>9.7</td>
<td>136</td>
</tr>
<tr>
<td>0031451</td>
<td>6 × 2 × 0.34</td>
<td>10</td>
<td>165</td>
</tr>
<tr>
<td>0031452</td>
<td>8 × 2 × 0.34</td>
<td>11.8</td>
<td>221</td>
</tr>
<tr>
<td>0031453</td>
<td>10 × 2 × 0.34</td>
<td>13.7</td>
<td>274</td>
</tr>
<tr>
<td>0031454</td>
<td>1 × 2 × 0.50</td>
<td>5.5</td>
<td>47</td>
</tr>
<tr>
<td>0031455</td>
<td>2 × 2 × 0.50</td>
<td>8.3</td>
<td>99</td>
</tr>
<tr>
<td>0031456</td>
<td>3 × 2 × 0.50</td>
<td>8.8</td>
<td>120</td>
</tr>
<tr>
<td>0031457</td>
<td>4 × 2 × 0.50</td>
<td>9.8</td>
<td>130</td>
</tr>
<tr>
<td>0031458</td>
<td>5 × 2 × 0.50</td>
<td>10.7</td>
<td>164</td>
</tr>
<tr>
<td>0031459</td>
<td>6 × 2 × 0.50</td>
<td>11.3</td>
<td>182</td>
</tr>
<tr>
<td>0031460</td>
<td>8 × 2 × 0.50</td>
<td>13.2</td>
<td>278</td>
</tr>
<tr>
<td>0031461</td>
<td>10 × 2 × 0.50</td>
<td>15.2</td>
<td>325</td>
</tr>
<tr>
<td>0031462</td>
<td>14 × 2 × 0.50</td>
<td>15.5</td>
<td>401</td>
</tr>
<tr>
<td>0031463</td>
<td>1 × 2 × 0.75</td>
<td>5.9</td>
<td>61</td>
</tr>
<tr>
<td>0031464</td>
<td>2 × 2 × 0.75</td>
<td>9</td>
<td>104</td>
</tr>
<tr>
<td>0031465</td>
<td>3 × 2 × 0.75</td>
<td>9.8</td>
<td>148</td>
</tr>
<tr>
<td>0031466</td>
<td>4 × 2 × 0.75</td>
<td>10.7</td>
<td>167</td>
</tr>
<tr>
<td>0031467</td>
<td>5 × 2 × 0.75</td>
<td>11.9</td>
<td>202</td>
</tr>
<tr>
<td>0031468</td>
<td>6 × 2 × 0.75</td>
<td>12.3</td>
<td>233</td>
</tr>
</tbody>
</table>
Data communication systems

Low frequency data transmission cables • Highly flexible and UL/CSA-certified

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Dimension and cross section (in mm²)</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0031469</td>
<td>8 × 2 × 0.75</td>
<td>14.7</td>
<td>330</td>
</tr>
<tr>
<td>0031470</td>
<td>10 × 2 × 0.75</td>
<td>16.7</td>
<td>390</td>
</tr>
<tr>
<td>0031471</td>
<td>14 × 2 × 0.75</td>
<td>17</td>
<td>515</td>
</tr>
<tr>
<td>0031472</td>
<td>1 × 2 × 1.00</td>
<td>6.3</td>
<td>71</td>
</tr>
<tr>
<td>0031473</td>
<td>2 × 2 × 1.00</td>
<td>9.9</td>
<td>126</td>
</tr>
<tr>
<td>0031474</td>
<td>3 × 2 × 1.00</td>
<td>10.5</td>
<td>167</td>
</tr>
<tr>
<td>0031475</td>
<td>4 × 2 × 1.00</td>
<td>11.8</td>
<td>213</td>
</tr>
<tr>
<td>0031476</td>
<td>5 × 2 × 1.00</td>
<td>13.1</td>
<td>247</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix L7 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems

Low frequency data transmission cables • Highly flexible and UL/CSA-certified

UNITRONIC® FD P plus
Highly flexible data cable with PUR jacket and AWM certification for US & Canadian use

Benefits
- Well-proven and reliable
- Wide temperature range for applications in harsh climatic environments
- UL AWM voltage rating 1000V in case of internal wiring allows for internal laying next to power cables with applied UL rating of 1kV
- In the USA inside of industrial machines, per NFPA 79, 2015 Ed., 12.9.2 (condition 3 under 12.9.2: Through 1 mm² and <16 AWG)

Application range
- Highly flexible data cable with PUR outer sheath, meets the highest service life requirements, even under harsh climatic conditions
- Suitable for use in measuring, control and regulating circuits
- Drag chain use – in case of horizontal installation travel distances up to 100 m
- For use in chain/carrier: Please respect the assembly guidelines listed in Appendix T3

Product features
- PUR outer sheath, tear and notch-resistant, resistant to mineral oils and abrasion when used in power chains
- Flame retardance ratings: IEC 60332-1-2, FT2 (Horizontal flame test)
- Halogen-free, has low capacitance and is flexible down to -40°C
- Oil-resistant
- Low-adhesive surface, resistant to hydrolysis and microbes, oil resistant

Norm references / Approvals
- Based on VDE 0812
- cRUus AWM certified by UL (UL: E63634): UL AWM Style 21576 and AWM A/B I/II

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable
- Core identification code
  DIN 47100, refer to Appendix T9
- Mutual capacitance
  C/C approx. 60 nF/km
- Inductivity
  approx. 0.65 mH/km
- Conductor stranding
  Stranded, extra-fine wire
- Maximum bending radius
  Flexing: 5 x outer diameter
  Fixed installation: 3 x outer diameter
- Test voltage
  1500 V
- Temperature range
  Flexing: -40°C to +80°C
  Fixed installation: -40°C to +80°C
  cRUus AWM: max. +80°C

Article number | Number of cores and mm² per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) | Outer sheath colour: grey (RAL 7001)
--- | --- | --- | --- | --- | ---
0028647 | 2 x 0.14 | 3.7 | 2.8 | 20 |
0028650 | 3 x 0.14 | 3.9 | 4.1 | 25 |
0028651 | 4 x 0.14 | 4.2 | 5.6 | 30 |
0028652 | 5 x 0.14 | 4.5 | 7 | 34 |
0028677 | 6 x 0.14 | 4.8 | 8.4 | 42 |
0028653 | 7 x 0.14 | 5.1 | 9.8 | 48 |
0028654 | 10 x 0.14 | 6.1 | 14 | 60 |
0028678 | 12 x 0.14 | 5.9 | 16.8 | 67 |
0028656 | 18 x 0.14 | 6.8 | 25.2 | 87 |
0028655 | 25 x 0.14 | 8.3 | 35 | 120 |
0028658 | 2 x 0.25 | 4.1 | 5 | 27 |
0028659 | 3 x 0.25 | 4.3 | 7.5 | 32 |
0028660 | 4 x 0.25 | 4.7 | 10 | 35 |
0028661 | 5 x 0.25 | 5 | 12.5 | 49 |
0028662 | 7 x 0.25 | 5.8 | 17.5 | 43 |
0028663 | 10 x 0.25 | 7 | 25 | 72 |
0028680 | 12 x 0.25 | 6.7 | 30 | 87 |
0028664 | 14 x 0.25 | 7.1 | 35 | 73 |
0028665 | 18 x 0.25 | 8 | 45 | 104 |
0028666 | 25 x 0.25 | 9.8 | 62.5 | 133 |
0028667 | 2 x 0.34 | 4.5 | 6.8 | 33 |
0028668 | 3 x 0.34 | 4.8 | 10.2 | 39 |
0028669 | 4 x 0.34 | 5.2 | 13.6 | 41 |
0028670 | 5 x 0.34 | 5.6 | 17 | 44 |
0028671 | 7 x 0.34 | 6.5 | 23.8 | 55 |
0028672 | 10 x 0.34 | 8 | 34 | 85 |
0028673 | 14 x 0.34 | 8.2 | 47.6 | 94 |
0028674 | 18 x 0.34 | 9 | 61.2 | 131 |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150 /100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
UNITRONIC® FD CP plus
Screened highly flexible data transmission cable with PUR outer sheath - UL/CSA-listed

Benefits
- Flexible at low temperatures
- Low capacitance
- Halogen-free
- Wide temperature range for applications in harsh climatic environments
- Overall braid minimises electrical interference
- UL AWM Style 21576 and AWM A/B I/II

Product features
- Halogen-free, has low capacitance and is flexible down to -40°C
- PUR outer sheath, tear and notch-resistant, resistant to mineral oils and abrasion when used in power chains
- Low-adhesive surface, resistant to hydrolysis and microbes, oil resistant
- Flame retardance: IEC 60332-1-2, VW-1, FT2
- Designed for 5 up to 10 million bending/ unbending cycles (constant flex) in drag chains

Norm references / Approvals
- CULus CMX certified by UL (UL: E236660)
- CRUs AWM certified by UL (UL: E63634):
  - UL AWM Style 21576 and AWM A/B I/II

Application range
- Suitable for use in measuring, control and regulating circuits
- Drag chain use - in case of horizontal installation travel distances up to 100 m
- For use in chain/carrier: Please respect the assembly guidelines listed in Appendix T3
- Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)

Technical data
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000104
  - ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  - DIN 47100, refer to Appendix T9
- Mutual capacitance
  - Core/core: 1500 V rms
  - Core/screen: 500 V
- Inductivity
  - approx. 0.65 mH/km
- Conductor stranding
  - Stranded, extra-fine wire
- Torsion movement in WTG
  - TW-0 & TW-2, refer to Appendix T0
- Minimum bending radius
  - Flexing: 7.5 × outer diameter
  - Fixed installation: 4 × outer diameter
- Test voltage
  - Core/core: 1500 V rms
  - Core/screen: 500 V
- Temperature range
  - Flexing: -40°C to +80°C
  - Fixed installation: -40°C to +80°C
  - cULus CMX: max. +75°C
  - cRUus AWM: max. +80°C

Minimum bending radius
- Fixed installation: 4 × outer diameter
- Copper index
  - 7.0 × copper index, 25°C

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Article number Number of cores and mm² per conductor Outer diameter (mm) Copper index (kg/km) Weight (kg/km)
UNITRONIC® FD CP plus
0028880 2 × 0.14 4.3 11.2 33
0028881 3 × 0.14 4.5 14.1 36
0028882 4 × 0.14 4.8 15.5 40
0028883 5 × 0.14 5.1 18.3 45
0028884 6 × 0.14 5.7 27.8 51
0028885 10 × 0.14 6.7 39.3 59
0028886 14 × 0.14 6.8 45.3 62
0028887 18 × 0.14 7.4 54.1 118
0028888 25 × 0.14 8.9 68.4 157
0028889 2 × 0.25 4.7 14.9 38
0028890 3 × 0.25 4.9 18.8 45
0028891 4 × 0.25 5.3 21.3 52
0028892 5 × 0.25 5.6 31 69
0028893 7 × 0.25 6.4 39.6 76
0028894 10 × 0.25 7.6 53.9 98
0028895 14 × 0.25 7.9 64.2 120
0028896 18 × 0.25 8.6 78.4 142
0028897 25 × 0.25 10.4 101 213
0028898 2 × 0.34 5.1 18.1 40
0028899 3 × 0.34 5.4 28.7 50
0028900 4 × 0.34 5.8 35.7 60
0028901 5 × 0.34 6.2 39.1 70
0028902 7 × 0.34 7.1 52.7 109
0028903 10 × 0.34 8.6 67.4 147
0028904 14 × 0.34 8.8 85.9 166
0028905 18 × 0.34 9.8 99.7 190

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

For current information see: www.lappgroup.com
Data communication systems

Low frequency data transmission cables • Highly flexible and UL/CSA-certified

UNITRONIC® FD CP (TP) plus
Screened highly flexible data transmission cable with PUR outer sheath and twisted pairs - UL/CSA-listed

Benefits
- Wide temperature range for applications in harsh climatic environments
- Decoupling of circuits by means of twisted-pair (TP) design (crosstalk effects)
- UL AWM voltage rating 1000V in case of internal wiring allows for internal laying next to power cables with applied UL rating of 1kV
- In the USA inside of industrial machines, per NFPA 79, 2015 Ed., 12.9.2 (condition 3 under 12.9.2: Through 1 mm² and <16 AWG)

Product features
- Halogen-free, has low capacitance and is flexible down to -40°C
- PUR outer sheath, tear and notch-resistant, resistant to mineral oils and abrasion when used in power chains
- Low-adhesive surface, resistant to hydrolysis and microbes, oil resistant
- Flame retardance: IEC 60332-1-2, VW-1, FT2
- Designed for 10 million alternating bending cycles and horizontal travel distances up to 100 meter

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000104
  ETIM 5.0/6.0 Class-Description: Control cable
- Core identification code
  DIN 47100, refer to Appendix T9
- Mutual capacitance
  Up to 0.5 mm²: 60 nF/km
  Up to 1.0 mm²: 70 nF/km
- Inductivity
  approx. 0.65 mH/km
- Conductor stranding
  Stranded, extra-fine wire
  From 0.5 mm²: extra-fine wire according to IEC 60228 class 6
- Torsion movement in WTG
  TW-0 & TW-2, refer to Appendix T0
- Minimum bending radius
  Flexing: 7.5 × outer diameter
  Fixed installation: 4 × outer diameter
- Test voltage
  Core/core: 1500 V rms
  Core/screen: 500 V
- Temperature range
  Flexing: -40°C to +80°C
cULus CMX: max. +75°C
cRUus AWM: max. +80°C

Application range
- Suitable for use in measuring, control and regulating equipment
- Linear robots, automated handling equipment
- Drag chain use - in case of horizontal installation travel distances up to 100 m
- For use in chain/carrier: Please respect the assembly guidelines listed in Appendix T3
- Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)

Product Make-up
- Extra-fine wire strand made of bare copper wires
- Core insulation: Based on Polyolefin TP structure
- Non-woven wrapping
- Tinned-copper braiding
- Outer sheath made of special PUR compound
  Outer sheath colour: grey (RAL 7001)

Norm references / Approvals
- CULus CMX certified by UL (UL: E236660)
- CRUus AWM certified by UL (UL: E63634): UL AWM Style 21576 and AWM A/B I/II

Product Make-up
- Extra-fine wire strand made of bare copper wires
- Core insulation: Based on Polyolefin TP structure
- Non-woven wrapping
- Tinned-copper braiding
- Outer sheath made of special PUR compound
  Outer sheath colour: grey (RAL 7001)

Article number | Number of pairs and mm² | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
---|---|---|---|---|
0030910 | 2 × 2 × 0.14 | 5.9 | 19.4 | 42 |
0030911 | 3 × 2 × 0.14 | 6.2 | 23.4 | 47 |
0030912 | 4 × 2 × 0.14 | 6.7 | 27.1 | 59 |
0030913 | 5 × 2 × 0.14 | 7.3 | 37.4 | 68 |
0030914 | 6 × 2 × 0.14 | 7.5 | 49.4 | 91 |
0030915 | 8 × 2 × 0.14 | 8.8 | 54.8 | 109 |
0030916 | 10 × 2 × 0.14 | 10.1 | 60.1 | 120 |
0030917 | 1 × 2 × 0.25 | 4.7 | 14 | 27 |
0030918 | 2 × 2 × 0.25 | 6.6 | 32 | 60 |
0030920 | 3 × 2 × 0.25 | 7 | 38.4 | 72 |
0030921 | 4 × 2 × 0.25 | 7.6 | 43.2 | 85 |
0030922 | 5 × 2 × 0.25 | 8.5 | 51.5 | 92 |
0030923 | 6 × 2 × 0.25 | 8.8 | 71.8 | 114 |
0030924 | 8 × 2 × 0.25 | 10.3 | 74.4 | 155 |
0030925 | 10 × 2 × 0.25 | 11.8 | 90 | 186 |
0030926 | 14 × 2 × 0.25 | 12 | 111.2 | 219 |
0030963 | 1 × 2 × 0.34 | 5.1 | 20 | 36 |
0030928 | 2 × 2 × 0.34 | 7.3 | 41 | 69 |
0030929 | 3 × 2 × 0.34 | 8 | 52 | 101 |
0030930 | 4 × 2 × 0.34 | 8.7 | 59 | 106 |
0030932 | 6 × 2 × 0.34 | 10 | 86.2 | 165 |
0030934 | 10 × 2 × 0.34 | 13.7 | 131.1 | 274 |
0030964 | 1 × 2 × 0.5 | 5.5 | 22 | 47 |
0030937 | 2 × 2 × 0.5 | 8.3 | 50 | 99 |
0030938 | 3 × 2 × 0.5 | 8.8 | 71.8 | 130 |
0030939 | 4 × 2 × 0.5 | 9.8 | 74.4 | 148 |
0030940 | 5 × 2 × 0.5 | 10.7 | 84.5 | 168 |
0030941 | 6 × 2 × 0.5 | 11.3 | 99.6 | 194 |
0030942 | 8 × 2 × 0.5 | 13.2 | 144.3 | 284 |

For current information see: www.lappgroup.com
<table>
<thead>
<tr>
<th>Article number</th>
<th>Number of pairs and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0030943</td>
<td>10 × 2 × 0.5</td>
<td>15.2</td>
<td>178</td>
<td>343</td>
</tr>
<tr>
<td>0030944</td>
<td>14 × 2 × 0.5</td>
<td>15.5</td>
<td>215.4</td>
<td>401</td>
</tr>
<tr>
<td>0030945</td>
<td>1 × 2 × 0.75</td>
<td>5.9</td>
<td>34</td>
<td>61</td>
</tr>
<tr>
<td>0030946</td>
<td>2 × 2 × 0.75</td>
<td>9</td>
<td>60</td>
<td>112</td>
</tr>
<tr>
<td>0030947</td>
<td>3 × 2 × 0.75</td>
<td>9.8</td>
<td>65.7</td>
<td>157</td>
</tr>
<tr>
<td>0030948</td>
<td>4 × 2 × 0.75</td>
<td>10.7</td>
<td>93.6</td>
<td>172</td>
</tr>
<tr>
<td>0030950</td>
<td>6 × 2 × 0.75</td>
<td>12.3</td>
<td>130.4</td>
<td>231</td>
</tr>
<tr>
<td>0030951</td>
<td>8 × 2 × 0.75</td>
<td>14.7</td>
<td>192.2</td>
<td>342</td>
</tr>
<tr>
<td>0030952</td>
<td>10 × 2 × 0.75</td>
<td>16.7</td>
<td>258</td>
<td>390</td>
</tr>
<tr>
<td>0030953</td>
<td>14 × 2 × 0.75</td>
<td>17</td>
<td>316.6</td>
<td>545</td>
</tr>
<tr>
<td>0030955</td>
<td>1 × 2 × 1.0</td>
<td>6.3</td>
<td>42</td>
<td>71</td>
</tr>
<tr>
<td>0030956</td>
<td>2 × 2 × 1.0</td>
<td>9.9</td>
<td>73</td>
<td>129</td>
</tr>
<tr>
<td>0030957</td>
<td>3 × 2 × 1.0</td>
<td>10.5</td>
<td>93.6</td>
<td>169</td>
</tr>
<tr>
<td>0030958</td>
<td>4 × 2 × 1.0</td>
<td>11.8</td>
<td>117.8</td>
<td>204</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum.

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
UNITRONIC® BUS LD FD P
Highly flexible buscable with PUR outer sheath, for use in different bussystems

**Benefits**
- Suitable for multiple Bus systems based on RS485/RS422
- PUR outer sheath, tear and notch-resistant, resistant to mineral oils and abrasion when used in power chains
- Under consideration of the temperature range also suitable for outdoor use

**Application range**
- For highly flexible applications (power chains, moving machine parts)
- Bus cables for bus systems such as e.g. Modbus, SUConet P, Modulink P, VariNet-P)

**Product features**
- The stated bit rates result in the following cable lengths (maximum) of one bus segment:
  - 9.6-93.75 kbit/s = 1200m
  - 187.5 kbit/s = max. 1,000 m
  - 500 kbit/s = max. 400 m
- UV-resistant (but colour may change after some time)

**Norm references / Approvals**
- UNITRONIC® BUS LD FD P A: UL versions with certification: UL/CSC type CMX acc. to UL 444 and CSA C22.2 no. 214-02
- Flame-retardant according IEC 60332-1-2

**Product Make-up**
- Extra-fine wire strand, made of bare copper
- Colour code DIN 47100
- Overall screening of braided tinned-copper strands
- Outer sheath: PUR, violet (RAL 4001)

**Technical data**

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
<th>ETIM 5.0/6.0 Class-ID: EC000830</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
<td></td>
</tr>
<tr>
<td>Mutual capacitance (800 Hz) max. 60 nF/km</td>
<td></td>
</tr>
<tr>
<td>Peak operating voltage (not for power applications) 250 V</td>
<td></td>
</tr>
<tr>
<td>Conductor resistance (loop): max. 159.8 ohm/km</td>
<td></td>
</tr>
<tr>
<td>Minimum bending radius</td>
<td></td>
</tr>
<tr>
<td>Fixed installation: 6 x core diameter</td>
<td></td>
</tr>
<tr>
<td>One bend at end of core: 3 x cable diameter</td>
<td></td>
</tr>
<tr>
<td>Flexing: 15 x outer diameter</td>
<td></td>
</tr>
<tr>
<td>Test voltage</td>
<td></td>
</tr>
<tr>
<td>Core/core: 1500 V rms</td>
<td></td>
</tr>
<tr>
<td>Characteristic impedance 100 – 120 Ohm</td>
<td></td>
</tr>
</tbody>
</table>

**Temperature range**
- Fixed installation: -40°C to +80°C
- Flexing: -30°C to +70°C

### Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170121</td>
<td>UNITRONIC® BUS LD FD P</td>
<td>1 x 2 x 0,25</td>
<td>6</td>
<td>18</td>
<td>39</td>
</tr>
<tr>
<td>2170124</td>
<td>UNITRONIC® BUS LD FD P</td>
<td>2 x 2 x 0,25</td>
<td>7.9</td>
<td>33</td>
<td>65</td>
</tr>
<tr>
<td>2170125</td>
<td>UNITRONIC® BUS LD FD P</td>
<td>3 x 2 x 0,25</td>
<td>8</td>
<td>39</td>
<td>77</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Modulink P is a registered trademark of Weidmüller GmbH & Co. VariNet P is a registered trademark of Pepperl+Fuchs GmbH.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems
Bus systems with interface RS485/RS422 • Continuous flexing application

UNITRONIC® BUS LD FD P
Highly flexible buscable with PUR outer sheath, for use in different bussystems

Benefits
- Suitable for multiple Bus systems based on RS485 / RS422
- PUR outer sheath, tear and notch-resistant, resistant to mineral oils and abrasion when used in power chains
- Under consideration of the temperature range also suitable for outdoor use

Application range
- For highly flexible applications (power chains, moving machine parts)
- Bus cables for bus systems such as e.g. Modbus, SUCOnet P, Modulink P, VariNet-P)

Product features
- The stated bit rates result in the following cable lengths (maximum) of one bus segment:
  - 9.6-93.75 kbit/s = 1200m
  - 187.5 kbit/s = max. 1,000 m
  - 500 kbit/s = max. 400 m
- UV-resistant (but colour may change after some time)

Norm references / Approvals
- UNITRONIC® BUS LD FD P A: UL versions with certification: UL/CSA type CMX acc. to UL 444 and CSA C22.2 no. 214-02
- Flame-retardant according IEC 60332-1-2

Product Make-up
- Extra-fine wire strand made of bare copper
- Colour code DIN 47100
- Core insulation: PE
- Overall screening of braided tinned-copper strands
- Outer sheath: PUR, violet (RAL 4001)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable
  Mutual capacitance (800 Hz) max. 60 nF/km
  Peak operating voltage (not for power applications) 250 V
  Conductor resistance (loop): max. 159.8 ohm/km
  Minimum bending radius
  Fixed installation: 6 x core diameter
  One bend at end of core: 3 x cable diameter
  Flexing: 15 x outer diameter
  Test voltage
  Core/core: 1500 V rms
  Characteristic impedance
  100 - 120 Ohm
  Temperature range
  Fixed installation: -40°C to +80°C
  Flexing: -30°C to +70°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170813</td>
<td>UNITRONIC® BUS LD FD P A</td>
<td>1 x 2 x 0,25</td>
<td>6.2</td>
<td>18</td>
<td>39</td>
</tr>
<tr>
<td>2170814</td>
<td>UNITRONIC® BUS LD FD P A</td>
<td>2 x 2 x 0,25</td>
<td>8.3</td>
<td>33</td>
<td>65</td>
</tr>
<tr>
<td>2170815</td>
<td>UNITRONIC® BUS LD FD P A</td>
<td>3 x 2 x 0,25</td>
<td>8.4</td>
<td>39</td>
<td>77</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

For current information see: www.lappgroup.com
UNITRONIC® BUS ASI FD
High flexible AS-INTERFACE cables for networking systems in the field

Benefits
- The new BUS ASI LD 2 x 2.5 (Long Distance) allows even modules located further away to be connected.
- AS-I power supplies can be reduced. The BUS ASI LD is downwards-compatible with version 1.5.
- For highly flexible applications (power chains, moving machine parts)
- High oil-resistance

Application range
- Communication at sensor/actuator level
- Sensor-/actuator wiring

Product features
- PUR versions are halogen-free according to IEC 60754-1
- Flame-retardant according to IEC 60332-1-2, UL FT-2 flame test
- Data and power are transmitted via an unscreened, geometrically coded two-core flat cable (protection against polarity reversal).

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable
- Peak operating voltage
  300 V (not for power applications)
- Conductor resistance
  1.5 mm²: max. 13.7 Ohm/km
  2.5 mm²: max. 8.21 Ohm/km
- Minimum bending radius
  Fixed installation: 12 mm
  Flexing without fixing: 24 mm
  Flexing with fixing: 60 mm (15 x D)
- Test voltage
  Core/core: 2000 V
- Temperature range
  Fixed installation: -40 °C to +80 °C (TPE +105 °C)
  Flexing without fixing: -30 °C to +70 °C (TPE +105 °C)

Product Make-up
- Extra-fine wire, tinned copper strands
- Core insulation: halogen-free compound
- Outer sheath: PUR
- Outer sheath: yellow (RAL 1023), black (RAL 9005)

Article number | Article designation | Outer sheath colour | Application | Number of cores and mm² per conductor | Copper index (kg/km) | Weight (kg/km)
---|---|---|---|---|---|---
2170357 | UNITRONIC® BUS ASI FD P FRNC | yellow | Data and power transmission | 2 x 1.5 | 29 | 64
2170358 | UNITRONIC® BUS ASI FD P FRNC | black | Transmission of 30 V DC auxiliary power | 2 x 1.5 | 29 | 64

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Lapp Kabel is a member of the AS-International Association.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems
Bus system AS-Interface • Continuous flexing application

UNITRONIC® BUS ASI FD
High flexible AS-INTERFACE cables for networking systems in the field

Info
• “FD” = suitable for power chains
• “LD” = Long Distance

Benefits
• The new BUS ASI LD 2 × 2.5 (Long Distance) allows even modules located further away to be connected. AS-I power supplies can be reduced. The BUS ASI LD is downwards-compatible with version 1.5.
• For highly flexible applications (power chains, moving machine parts)
• High oil-resistance

Application range
• Communication at sensor/actuator level
• Sensor-/actuator wiring

Product make-up
• Extra-fine wire, tinned copper strands
• Core insulation: halogen-free compound
• Outer sheath: TPE
• Outer sheath: yellow (RAL 1023), black (RAL 9005)

Norm references / Approvals
• ASI is standardised Europe-wide in EN 50295 and internationally in IEC 62026-2.
• TPE variant: UL AWM Style 2103 CSA AWM II A/B
• PUR versions: UL AWM Style 20549

Product features
• PUR versions are halogen-free according to IEC 60754-1
• Flame-retardant according to IEC 60332-1-2, UL FT-2 flame test
• Data and power are transmitted via an unscreened, geometrically coded two-core flat cable (protection against polarity reversal).
• The conductor is contacted by “piercing technology” within the ASI modules.
• The sensors are connected to the ASI modules (coupling modules) using round cables (connection cables).

Norm references / Approvals
• ETIM 5.0/6.0 Class-ID: EC000830 ETIM 5.0/6.0 Class-Description: Data cable
• Peak operating voltage 300 V (not for power applications)
• Conductor resistance
  1.5 mm²: max. 13.7 Ohm/km
  2.5 mm²: max. 8.21 Ohm/km
• Minimum bending radius
  Fixed installation: 12 mm
  Flexing without fixing: 24 mm
  Flexing with fixing: 60 mm (15 × D)
• Test voltage
  Core/core: 2000 V

Temperature range
• Fixed installation:
  -40 °C to +80 °C (TPE +105 °C)
• Flexing without fixing:
  -30 °C to +70 °C (TPE +105 °C)

Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Outer sheath colour</th>
<th>Application</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170317</td>
<td>UNITRONIC® BUS ASI FD P yellow</td>
<td></td>
<td>Data and power transmission 2 × 2.5</td>
<td>48</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>2170318</td>
<td>UNITRONIC® BUS ASI FD P black</td>
<td></td>
<td>Transmission of 30 V DC auxiliary power 2 × 2.5</td>
<td>48</td>
<td>74</td>
<td></td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

For current information see: www.lappgroup.com

Lapp Kabel is a member of the AS-International Association

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
**UNITRONIC® BUS ASI FD**

High flexible AS-INTERFACE cables for networking systems in the field

### Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
<th>ETIM 5.0/6.0 Class-ID: EC000830</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
</tr>
</tbody>
</table>

- **Peak operating voltage**: 300 V (not for power applications)
- **Conductor resistance**: 1.5 mm²: max. 13.7 Ohm/km
  - 2.5 mm²: max. 8.21 Ohm/km
- **Minimum bending radius**
  - Fixed installation: 12 mm
  - Flexing without fixing: 24 mm
  - Flexing with fixing: 60 mm (15 x D)
- **Test voltage**: Core/core: 2000 V
- **Temperature range**
  - Fixed installation: -40 °C to +80 °C (TPE +105 °C)
  - Flexing without fixing: -30 °C to +70 °C (TPE +105 °C)

### Norm references / Approvals

- ASI is standardised Europe-wide in EN 50295 and internationally in IEC 62026-2.
- TPE variant: UL AWM Style 2103
- CSA AWN II A/B
- PUR versions: UL AWM Style 20549

### Product Make-up

- Extra-fine wire, tinned copper strands
- Core insulation: halogen-free compound
- Outer sheath: TPE
- Outer sheath: yellow (RAL 1023), black (RAL 9005)

### Benefits

- The new BUS ASI LD 2 x 2.5 (Long Distance) allows even modules located further away to be connected. AS-I power supplies can be reduced. The BUS ASI LD is downwards-compatible with version 1.5.
- For highly flexible applications (power chains, moving machine parts)
- High oil-resistance

### Application range

- Communication at sensor/actuator level
- Sensor-/actuator wiring

### Product features

- PUR versions are halogen-free according to IEC 60754-1
- Flame-retardant according to IEC 60332-1-2, UL FT-2 flame test
- Data and power are transmitted via an unscreened, geometrically coded two-core flat cable (protection against polarity reversal).
- The conductor is contacted by “piercing technology” within the ASI modules.
- The sensors are connected to the ASI modules (coupling modules) using round cables (connection cables).

### TABLE: Article numbers and properties

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Outer sheath colour</th>
<th>Application</th>
<th>Number of cores and mm² per conductor</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170830</td>
<td>UNITRONIC® BUS ASI FD (TPE) A</td>
<td>yellow</td>
<td>Data and power transmission</td>
<td>2 x 1,5</td>
<td>29</td>
<td>64</td>
</tr>
<tr>
<td>2170831</td>
<td>UNITRONIC® BUS ASI FD (TPE) A</td>
<td>black</td>
<td>Transmission of 30 V DC auxiliary power</td>
<td>2 x 1,5</td>
<td>29</td>
<td>64</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standard-lengths

Lapp Kabel is a member of the AS-International Association.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Benefits
- Due double screening it is suitable for installation in electromagnetically demanding areas
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP
- For use where the combination of a halogen-free outer sheath with properties similar to PUR and enhanced flame-retardance is required

Application range
- PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).
- For highly flexible applications (power chains, moving machine parts)
- Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)

Product features
- Halogen-free
- Flame-retardant according IEC 60332-1-2
- Oil-resistant
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply (cable type A, PROFIBUS-DP):
  - 93.75 kbit/s = 1200 m
  - 187.5 kbit/s = 1000 m
  - 500 kbit/s = 400 m
  - 1.5 Mbit/s = 200 m
  - 12.0 Mbit/s = 100 m

Product Make-up
- Stranded bare copper wire
- Core insulation: foam skin, (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Outer sheath: PUR, violet (RAL 4001)

Technical data
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC000830
  - ETIM 5.0/6.0 Class-Description: Data cable
- Mutual capacitance: (800 Hz): max. 30 nF/km
- Peak operating voltage (not for power applications): 250 V
- Torsion movement in WTG (wind turbine generator): TW-0 & TW-2, refer to Appendix T0
- Minimum bending radius: 65 mm
- Test voltage: Core/core: 1500 V rms
- Characteristic impedance: 150 ± 15 Ohm
- Temperature range:
  - Flexing: -30°C to +70°C
  - Fixed installation: -40°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and conductor diameter (mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170222</td>
<td>UNITRONIC® BUS PB FD P</td>
<td>1 × 2 × 0.64</td>
<td>8</td>
<td>30.1</td>
<td>64</td>
</tr>
</tbody>
</table>

Unless otherwise specified, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO). Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Data communication systems

Bus system PROFIBUS-DP/FMS/FIP • Continuous flexing application

UNITRONIC® BUS PB FD P A

Halogenfree, highly flexible PROFIBUS cable - UL/CSA certified

Benefits
- For use where the combination of a halogen-free outer sheath with properties similar to PUR and enhanced flame-retardance is required
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range
- PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP – Factory Instrumentation Protocol).
- For highly flexible applications (power chains, moving machine parts)
- Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)

Product features
- Halogen-free
- Flame-retardant according IEC 60332-1-2
- Oil-resistant
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply (cable type A, PROFIBUS-DP):
  - 93.75 kbit/s = 1200 m
  - 187.5 kbit/s = 1000 m
  - 500 kbit/s = 400 m
  - 1.5 Mbit/s = 200 m
  - 12.0 Mbit/s = 100 m

Norm references / Approvals
- Certification: UL/CSA type CMX in accordance with UL 444 and CSA C22.2 no. 214

Product Make-up
- Stranded bare copper wire
- Core insulation: foam skin, (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Outer sheath: PUR, violet (RAL 4001)

Technical data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000830
ETIM 5.0/6.0 Class-Description: Data cable

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak operating voltage
(not for power applications) 250 V

Torsion movement in WTG (wind turbine generator)
TW-0 & TW-2, refer to Appendix T0

Minimum bending radius
65 mm

Test voltage
Core/core: 1500 V rms

Characteristic impedance
150 ± 15 Ohm

Temperature range
Flexing: -30°C to +70°C
Fixed installation: -40°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and conductor diameter (mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170822</td>
<td>UNITRONIC® BUS PB FD P A</td>
<td>1 x 2 x 0.64</td>
<td>8</td>
<td>30.1</td>
<td>58</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).
SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP.
Lapp Kabel is a member of the PROFIBUS user organisation (PNO).
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
UNITRONIC® BUS PB FD P FC
Halogenfree, highly flexible PROFIBUS cable – with fast connect cable make up, UL/CSA certified

Benefits
- Fast Connect (FC) cable design
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range
- PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).
- For highly flexible applications (power chains, moving machine parts)

Product features
- Flame-retardant according IEC 60332-1-2
- Oil-resistant
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply
  (cable type A, PROFIBUS-DP):
    - 9.75 kbit/s = 1200 m
    - 18.75 kbit/s = 1000 m
    - 500 kbit/s = 400 m
    - 1.5 Mbit/s = 200 m
    - 12.0 Mbit/s = 100 m

Norm references / Approvals
- Certification: UL/CSA type CMX in accordance with UL 444 and CSA C22.2 no. 214

Product Make-up
- Stranded bare copper wire
- Core insulation: foam skin, (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Fast connect inner sheath: PVC, nature
- Outer sheath: PUR, violet (RAL 4001)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable

  - Mutual capacitance (800 Hz): max. 30 nF/km
  - Peak operating voltage (not for power applications) 250 V
  - Minimum bending radius: Flexing: 15 x outer diameter
  - Test voltage: 3600 V DC (3 sec.)
  - Characteristic impedance: 150 ± 15 Ohm
  - Temperature range: Flexing: -30°C to +70°C
    Fixed installation: -40°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and conductor diameter (mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170322</td>
<td>UNITRONIC® BUS PB FD P FC</td>
<td>1 x 2 x 0.64</td>
<td>8</td>
<td>26</td>
<td>79</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: www.lappkabel.de/en/cable-standard-lengths

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
**UNITRONIC® BUS PB FD FRNC FC**

Flame retardant, highly flexible PROFIBUS cable - with fast connect cable make up, UL/CSA certified

### Benefits
- Fast Connect (FC) system
- For use where the combination of a halogen-free outer sheath with properties similar to PUR and enhanced flame-retardance is required
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

### Application range
- For highly flexible use in energy supply chains or permanently moving machines and linear robots
- This cable provides special advantages for use in sensitive areas where fire propagation must be avoided and the presence of toxic fumes would cause personal injury and damage to equipment.

### Product features
- Halogen-free
- Oil-resistant
- High flame retardance in accordance with IEC 60332-3 and FT4
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply
  - (cable type A, PROFIBUS-DP):
    - 93.75 kbit/s = 1200 m
    - 187.5 kbit/s = 1000 m
    - 500 kbit/s = 400 m
    - 1.5 Mbit/s = 200 m
    - 12.0 Mbit/s = 100 m

### Norm references / Approvals
- The cable is UL/CSA-certified (CMG)

### Technical data

**Classification ETIM 5/6**

ETIM 5.0/6.0 Class-ID: EC000830
ETIM 5.0/6.0 Class-Description: Data cable

**Mutual capacitance**

nom.: 28 nF/km

**Peak operating voltage**

(not for power applications) 250 V

**Minimum bending radius**

Fixed installation: 10 x outer diameter
Flexing: 15 x outer diameter

**Test voltage**

Core/core: 1500 V rms

**Characteristic impedance**

(3 - 20 MHz): 150 ± 15 Ohm

**Temperature range**

Flexing: -30°C to +70°C
Fixed installation: -40°C to +80°C

### Product Make-up
- Stranded bare copper wire
- Core insulation: foam skin, (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Fast connect inner sheath: PVC, nature
- Outer sheath: PUR, violet (RAL 4001)

### Article details

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and conductor diameter (mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170854</td>
<td>UNITRONIC® BUS PB FD FRNC FC</td>
<td>1 × 2 × 0.64</td>
<td>8</td>
<td>26</td>
<td>75</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Lapp Kabel is a member of the PROFIBUS user organisation (PNO).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems
Bus system PROFIBUS-DP/FMS/FIP • Continuous flexing application

UNITRONIC® BUS PB FD P COMBI
Highly flexible, halogenfree PROFIBUS HYBRID cables

Benefits
• For use where the combination of a halogen-free outer sheath with properties similar to PUR and enhanced flame-retardance is required
• For highly flexible applications (power chains, moving machine parts)
• Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range
• PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP – Factory Instrumentation Protocol).

Product Make-up
UNITRONIC® BUS PB FD P COMBI
• Fine-wire, bare copper strand
• 1 \times 2 \times 0.64: red, green
3 \times 1.0 (AWG 18): green/yellow, black, blue
• Core insulation: PE
• Tin-plated copper wire braiding
• Outer sheath: PUR, violet (RAL 4001)

UNITRONIC® BUS PB FD P HYBRID
• Fine-wire, bare copper strand
• 1 \times 2 \times 0.64: red, green
4 \times 1.5 (AWG 16): black with white numbers
• Core insulation: PE
• Tin-plated copper wire braiding
• Outer sheath: PUR, violet (RAL 4001)

Product features
• HYBRID: cable for data transmission + power supply
• Flame-retardant according IEC 60332-1-2

Technical data
Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000830
ETIM 5.0/6.0 Class-Description: Data cable

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak operating voltage
(not for power applications) 100 V

Minimum bending radius
Flexing: 15 x outer diameter
Test voltage
Core/core: 600 V

Characteristic impedance
150 ± 15 Ohm

Temperature range
Flexing: -5°C to +50°C
Fixed installation: -40°C to +80°C

Article number | Article designation | Number of pairs and conductor diameter (mm) | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km)
--- | --- | --- | --- | --- | ---
2170227 | UNITRONIC® BUS PB FD P COMBI | 1 × 2 × 0.64 Ø × 3 × 1.0 mm² | 10.1 | 59 | 125
2170495 | UNITRONIC® BUS PB FD P HYBRID | 1 × 2 × 0.64 Ø × 4 × 1.5 mm² | 11.3 | 89 | 148

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix 117 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Data communication systems
Bus system PROFIBUS-DP/FMS/FIP • Continuous flexing application

UNITRONIC® BUS PB FD P HYBRID

Benefits
• For use where the combination of a halogen-free outer sheath with properties similar to PUR and enhanced flame-retardance is required
• For highly flexible applications (power chains, moving machine parts)
• Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range
• PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features
• HYBRID: cable for data transmission + power supply
• Flame-retardant according IEC 60332-1-2

Product Make-up
• Fine-wire, bare copper strand
• 1 × 2 × 0.64 : red, green
• 4 × 1.5 (AWG16): black with white numbers
• Core insulation: PE
• Tin-plated copper wire braiding
• Outer sheath: PUR, violet (RAL 4001)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000830</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
</tr>
</tbody>
</table>

| Mutual capacitance (800 Hz): max. 30 nF/km |
| Peak operating voltage (not for power applications): 100 V |
| Minimum bending radius: Flexing: 15 x outer diameter |
| Test voltage: Core/core: 600 V |
| Characteristic impedance: 150 ± 15 Ohm |
| Temperature range: Flexing: -30°C to +60°C |
| Fixed installation: -40°C to +70°C |

Table:

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and conductor diameter (mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170495</td>
<td>UNITRONIC® BUS PB FD P HYBRID</td>
<td>1 × 2 × 0.64 + 4 × 1.5 mm²</td>
<td>11.3</td>
<td>89</td>
<td>148</td>
</tr>
</tbody>
</table>

Unless otherwise specified, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Data communication systems

Bus system PROFIBUS-DP/FMS/FIP • Continuous flexing application

UNITRONIC® BUS PB FD Y HYBRID
Highly flexible PROFIBUS HYBRID cable, UL-verified

Benefits
- For highly flexible applications (power chains, moving machine parts)
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP
- CL3 for installation on trays

Application range
- PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features
- HYBRID: cable for data transmission + power supply

Norm references / Approvals
- With UL/CSA certification (CMG, CL3, SUN RES, Oil Res I)
- Flame-retardant according to CSA FT4
- UL Vertical-Tray Flame Test
- Oil-resistant according to UL OIL RES I

Product Make-up
- Fine-wire, bare copper strand
- 1×2×0.64: red, green
- Core insulation: Foam Skin PE
- 4×1.5: black with white numbers 1-4
- Core insulation: PVC
- Tin-plated copper wire braiding
- Outer sheath: PVC, violet (RAL 4001)

Technical data

| Classification ETIM 5/6 ETIM 5.0/6.0 Class-ID: EC000830 ETIM 5.0/6.0 Class-Description: Data cable |
|---|---|
| Peak operating voltage | 600 V (not for power applications) |
| Minimum bending radius | Fixed installation: 5 x outer diameter Flexing: 15 x outer diameter |
| Test voltage | Core/core: 2000 V Core/screen: 2000 V |
| Characteristic impedance | 150 ± 15 Ohm |
| Temperature range | -5°C to +80°C |

<table>
<thead>
<tr>
<th>Highly flexible application</th>
<th>UNITRONIC® BUS PB FD Y HYBRID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article number</td>
<td>2170875</td>
</tr>
<tr>
<td>Article designation</td>
<td>UNITRONIC® BUS PB FD Y HYBRID</td>
</tr>
<tr>
<td>Number of pairs and conductor diameter (mm)</td>
<td>1 × 2 × 0.64 Ø + 4 × 1.5 mm²</td>
</tr>
<tr>
<td>Outer diameter (mm)</td>
<td>11.3</td>
</tr>
<tr>
<td>Copper index (kg/km)</td>
<td>89</td>
</tr>
<tr>
<td>Weight (kg/km)</td>
<td>155</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems

Bus system PROFIBUS-DP/FMS/FIP • M12 Cordsets

UNITRONIC® BUS PB M12-M12
PROFIBUS Cable: M12 connector on M12 socket

Benefits
• Cost efficient and rational wiring for PROFIBUS installations
• Space-saving due to compact dimensions
• Fast and easy error tracking

Application range
• Mechanical and plant engineering

Product features
• 2-core PROFIBUS cable, shielded
• Connector M12, B-coded with quick locking system
• Suitable for drag chains
• Including tag carrier

Norm references / Approvals
• UL-AWM-Style 21198 (80 °C / 300 V)

Product Make-up
• Core cross section: 0.25 mm²
• Core colours: red, green
• Outer sheath: PUR halogen-free, violet
• Outer diameter: 7.8 mm
• Shielded version
• Shielding is conducted over the knurl

Suitable connectors
• EPIC® DATA PB M12
• EPIC® DATA PB M12/M12
• EPIC® DATA PB M12T
• EPIC® DATA PB Sub-D M12

Technical data
Cookies: This website uses cookies. Continued use of the website signifies your agreement.

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Length (m)</th>
<th>Number of pins</th>
<th>Design</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug on socket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260955</td>
<td>AB-PB-M12MS-0.2PUR-M12FS</td>
<td>0.2</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260773</td>
<td>AB-PB-M12MS-0.3PUR-M12FS</td>
<td>0.3</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260774</td>
<td>AB-PB-M12MS-1.0PUR-M12FS</td>
<td>1</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260775</td>
<td>AB-PB-M12MS-2.0PUR-M12FS</td>
<td>2</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260869</td>
<td>AB-PB-M12MS-3.0PUR-M12FS</td>
<td>3</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260776</td>
<td>AB-PB-M12MS-5.0PUR-M12FS</td>
<td>5</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260777</td>
<td>AB-PB-M12MS-10.0PUR-M12FS</td>
<td>10</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260907</td>
<td>AB-PB-M12MS-15.0PUR-M12FS</td>
<td>15</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260908</td>
<td>AB-PB-M12MS-20.0PUR-M12FS</td>
<td>20</td>
<td>2</td>
<td>straight-straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260904</td>
<td>AB-PB-M12MA-10.0PUR-M12FA</td>
<td>10</td>
<td>2</td>
<td>angled-angled</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260905</td>
<td>AB-PB-M12MA-15.0PUR-M12FA</td>
<td>15</td>
<td>2</td>
<td>angled-angled</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>Plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260767</td>
<td>AB-PB-M12MS-2.0PUR</td>
<td>2</td>
<td>2</td>
<td>straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260768</td>
<td>AB-PB-M12MS-5.0PUR</td>
<td>5</td>
<td>2</td>
<td>straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260769</td>
<td>AB-PB-M12MS-10.0PUR</td>
<td>10</td>
<td>2</td>
<td>straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260956</td>
<td>AB-PB-M12MA-2.0PUR</td>
<td>2</td>
<td>2</td>
<td>angled</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>Socket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260770</td>
<td>AB-PB-2.0PUR-M12FS</td>
<td>2</td>
<td>2</td>
<td>straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260771</td>
<td>AB-PB-5.0PUR-M12FS</td>
<td>5</td>
<td>2</td>
<td>straight</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260772</td>
<td>AB-PB-10.0PUR-M12FS</td>
<td>10</td>
<td>2</td>
<td>straight</td>
<td>250</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems
Bus system CAN / DeviceNet • DeviceNet - continuous flexing application

UNITRONIC® DeviceNet FD THICK+THIN
High flexible DeviceNet Buscable based on the CAN technology

Application range
• For highly flexible applications
• DeviceNet™ connects industrial devices e.g. limit switches, photoelectric switches, valve islands, motor starters, drives, PLCs, etc.

Product features
• Based on proven CAN (Controller Area Network) technology.
• Permissible cable lengths vary with the data rate and the cable thickness
• Refer to data sheet for more details
• PUR (P) Version: Halogen free
  PVC (Y) Version: Flame retardant (UL FT4)
• UV-resistant (but colour may change after some time)

Norm references / Approvals
• PUR: UL/CSA-certified (CMX)
• PVC: UL/CSA CMG 75°C FT4 Sun Res Oil Res, at 2170346 also PLTC

Product Make-up
• Core insulation: PE
• Outer sheath of Polyurethan (PUR) or Polyvinylchlorid (PVC)

Technical data

<table>
<thead>
<tr>
<th>Classification</th>
<th>ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID:</td>
<td>EC000830</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description:</td>
<td>Data cable</td>
</tr>
</tbody>
</table>

Core identification code
Data pair: light blue + white
Power supply: red + black

Mutual capacitance
(800 Hz): max. 39.8 nF/km

Peak operating voltage
300 V (not for power applications)

Conductor resistance
Thick (loop): max. 45 ohm/km
Thin (loop): max. 180 ohm/km

Minimum bending radius
Fixed installation: 7.5 x outer diameter
Flexing: 15 x outer diameter

Test voltage
Core/core: 2000 V

Characteristic impedance
120 ohm

Temperature range
PUR: -40°C to +80°C
PVC: -10°C to +80°C

Table: Article number, Article designation, Number of pairs and AWG size, Outer diameter (mm), Copper index (kg/km), Weight (kg/km)

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and AWG size</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUR 2170344</td>
<td>UNITRONIC® BUS DN THICK FD P</td>
<td>1 × 2 × AWG 18 + 1 × 2 × AWG 15</td>
<td>12.2</td>
<td>94</td>
<td>184</td>
</tr>
<tr>
<td>2170345</td>
<td>UNITRONIC® BUS DN THIN FD P</td>
<td>1 × 2 × AWG 24 + 1 × 2 × AWG 22</td>
<td>6.9</td>
<td>33.4</td>
<td>67.7</td>
</tr>
<tr>
<td>PVC 2170346</td>
<td>UNITRONIC® BUS DN THICK FD Y</td>
<td>1 × 2 × AWG 18 + 1 × 2 × AWG 15</td>
<td>12.2</td>
<td>94</td>
<td>195</td>
</tr>
<tr>
<td>2170347</td>
<td>UNITRONIC® BUS DN THIN FD Y</td>
<td>1 × 2 × AWG 24 + 1 × 2 × AWG 22</td>
<td>6.9</td>
<td>33.4</td>
<td>69.8</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

DeviceNet is a registered trademark of ODVA

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems

Bus system CAN / DeviceNet • M12 Cordsets

UNITRONIC® BUS CAN M12-M12
DeviceNet/CANopen Cable: M12 connector on M12 socket

Benefits
• Cost-effective, efficient wiring of fieldbus and sensor/actuator installations
• Space-saving due to compact dimensions
• Fast and easy error tracking
• Robust design

Application range
• Mechanical and plant engineering

Product features
• 5-core DeviceNet/CANopen cable, shielded
• M12 connector, A-coded with quick-locking system
• Suitable for drag chains
• Including tag carrier

Norm references / Approvals
• UL-AWM-Style 21198 (80 °C / 300 V)

Product Make-up
• Signal line: 2 x 0.25 mm²
• Power supply: 2 x 0.34 mm²
• Drain wire: 1 x 0.34 mm²
• Core colours: red/black, blue/white
• Outer sheath: PUR halogen-free, violet
• Outer diameter: 6.7 mm
• Shielded version

Suitable connectors
• EPIC® DATA CAN M12
• EPIC® DATA CAN M12/M122
• EPIC® DATA CAN TR M12
• EPIC® DATA CAN M12T

Technical data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC001855
ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord

Material
Contact: CuSn
Contact surface: Ni/Au
Knurl: Zinc die-cast, nickel-plated
Gripping body: TPU, flame-retardant, self-extinguishing

Minimum bending radius
Flexing: 70 mm

Protection rating
IP65/IP67

Ambient temperature (operation)
Plug/socket -25°C to +90°C
Fixed installation -40°C to +80°C
Flexing -20°C to +80°C
Drag chain application ≤ 70 °C

Coding
A-standard

Rated current (A)
4 A

Article number | Article designation | Length (m) | Number of pins | Design | Rated voltage (V) | PU
--- | --- | --- | --- | --- | --- | ---

Plug on socket

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Length (m)</th>
<th>Number of pins</th>
<th>Design</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>22260795</td>
<td>AB-DN-M12MS-0,3PUR-M12FS</td>
<td>0.3</td>
<td>5</td>
<td>straight-straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260796</td>
<td>AB-DN-M12MS-1,0PUR-M12FS</td>
<td>1</td>
<td>5</td>
<td>straight-straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260797</td>
<td>AB-DN-M12MS-2,0PUR-M12FS</td>
<td>2</td>
<td>5</td>
<td>straight-straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260798</td>
<td>AB-DN-M12MS-5,0PUR-M12FS</td>
<td>5</td>
<td>5</td>
<td>straight-straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260799</td>
<td>AB-DN-M12MS-10PUR-M12FS</td>
<td>10</td>
<td>5</td>
<td>straight-straight</td>
<td>60</td>
<td>1</td>
</tr>
</tbody>
</table>

Plug

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Length (m)</th>
<th>Number of pins</th>
<th>Design</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>22260789</td>
<td>AB-DN-M12MS-2,0PUR</td>
<td>2</td>
<td>5</td>
<td>straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260790</td>
<td>AB-DN-M12MS-5,0PUR</td>
<td>5</td>
<td>5</td>
<td>straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260791</td>
<td>AB-DN-M12MS-10PUR</td>
<td>10</td>
<td>5</td>
<td>straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260204</td>
<td>AB-DN-M12MA-2,0PUR</td>
<td>2</td>
<td>5</td>
<td>angled</td>
<td>60</td>
<td>1</td>
</tr>
</tbody>
</table>

Socket

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Length (m)</th>
<th>Number of pins</th>
<th>Design</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>22260792</td>
<td>AB-DN-2,0PUR-M12FS</td>
<td>2</td>
<td>5</td>
<td>straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260793</td>
<td>AB-DN-5,0PUR-M12FS</td>
<td>5</td>
<td>5</td>
<td>straight</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260794</td>
<td>AB-DN-10,0PUR-M12FS</td>
<td>10</td>
<td>5</td>
<td>straight</td>
<td>60</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

No copper surcharge. DeviceNet is a registered trademark of ODVA.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
## Application range
- For highly flexible applications

## Product features
- Halogen-free
- Maximum bit rate: 1 Mbit/s for 40 m segment length
- Larger conductor cross-section is necessary with increasing length. Refer to the table below (reference values from ISO 11898).
- ISO 11898 makes recommendations for the segment length, cable cross section and bit rate
- Flame-retardant according IEC 60332-1-2

## Norm references / Approvals
- Standardised internationally in ISO 11898
- UL/CSA type CMX (UL 444)

## Product Make-up
- Stranded bare conductor
- Core insulation: foam skin
- Copper braid
- Outer sheath: PUR, violet (RAL 4001)
- UV-resistant (but colour may change after some time)

## Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
<th>ETIM 5.0/6.0 Class-ID: EC000830</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
</tr>
<tr>
<td>Mutual capacitance</td>
<td>(800 Hz) max. 40 nF/km</td>
</tr>
<tr>
<td>Peak operating voltage</td>
<td>250 V (not for power transmission)</td>
</tr>
<tr>
<td>Conductor resistance</td>
<td>(loop): max. 159.8 ohm/km</td>
</tr>
<tr>
<td>Minimum bending radius</td>
<td>Flexing: 15 x outer diameter</td>
</tr>
<tr>
<td>Test voltage</td>
<td>Core/core: 1500 V rms</td>
</tr>
<tr>
<td>Characteristic impedance</td>
<td>120 ohm</td>
</tr>
<tr>
<td>Temperature range</td>
<td>Fixed installation: -40°C to +80°C</td>
</tr>
<tr>
<td></td>
<td>Flexing: -30°C to +70°C</td>
</tr>
</tbody>
</table>

### Article number | Article designation | Number of pairs/conductor cross section (mm²) | Outer diameter (mm) | Conductor resistance | Copper index (kg/km) | Weight (kg/km) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2170272</td>
<td>UNITRONIC® BUS CAN FD P</td>
<td>1 × 2 × 0,25</td>
<td>6.4</td>
<td>159.8</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>2170273</td>
<td>UNITRONIC® BUS CAN FD P</td>
<td>2 × 2 × 0,25</td>
<td>8.4</td>
<td>159.8</td>
<td>33</td>
<td>65</td>
</tr>
<tr>
<td>2170275</td>
<td>UNITRONIC® BUS CAN FD P</td>
<td>1 × 2 × 0,34</td>
<td>8.8</td>
<td>122</td>
<td>32.8</td>
<td>60</td>
</tr>
<tr>
<td>2170276</td>
<td>UNITRONIC® BUS CAN FD P</td>
<td>2 × 2 × 0,34</td>
<td>9.6</td>
<td>122</td>
<td>52.4</td>
<td>88</td>
</tr>
<tr>
<td>2170278</td>
<td>UNITRONIC® BUS CAN FD P</td>
<td>1 × 2 × 0,5</td>
<td>8</td>
<td>72.8</td>
<td>41.9</td>
<td>74</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems

Bus system CC-Link • Fixed / continuous flexing application

UNITRONIC® BUS CC FD P FRNC
CC-Link bus cable for high flexible applications - UL-verified

Benefits
• The CC-Link® system was developed by Mitsubishi Electric Automation, Japan.

Application range
• CC-Link® (Control & Communication Link) = field bus network, for both control as well as information data to provide efficient, integrated factory and process automation.
• For highly flexible applications (power chains, moving machine parts)

Product features
• Transmission rate in relation to the distance
  • 156 kbit/s = 1,200 m
  • 625 kbit/s = 600 m
  • 2,5 Mbit/s = 200 m
  • 5,0 Mbit/s = 110-150 m
  • 10 Mbit/s = 50-100 m
• Halogen-free
• Flame-retardant according IEC 60332-1-2

Norm references / Approvals
• AWM 20233 80 °C 300V

Product Make-up
• Bare stranded copper wires
• Core insulation: PE
• Inner sheath: FRNC
• Overall screening of braided tinned-copper strands
• Outer sheath: PUR, red (RAL 3000)

Technical data
Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000830
ETIM 5.0/6.0 Class-Description: Data cable

Certifications
UL AWM Style 20233
Peak operating voltage
300 V
Conductor resistance
11 ohm/1,000 ft. (305 m) at 20°C
Minimum bending radius
Fixed installation: 4 x outer diameter
Moved: 10 x outer diameter
Test voltage
2000 V
Characteristic impedance
110 ohm at 1 MHz
Temperature range
-40°C to +80°C

Table: UNITRONIC® BUS CC FD P FRNC

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of cores and AWG size</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170370</td>
<td>UNITRONIC® BUS CC FD P FRNC</td>
<td>3 × 1 × AWG20</td>
<td>8.5</td>
<td>39.9</td>
<td>84</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Info
• Lapp Kabel is a regular member of the user organisation CC-Link Partner Association (CLPA), Japan.

For current information see: www.lappgroup.com
Data communication systems
Bus system SAFETY BUS • Fixed / continuous flexing application

UNITRONIC® BUS SAFETY
SafetyBUS cables for transmission of safety-oriented data

Benefits
- For serial transmission of safety-oriented data

Application range
- UNITRONIC® BUS SAFETY - fixed installation
- UNITRONIC® BUS SAFETY FD P - highly flexible applications
- For systems such as SafetyBUS p®, based on the well-known CAN bus system

Norm references / Approvals
- Flame retardant acc. to IEC 60332-1-2

Product Make-up
- Bare stranded copper wires
- Core insulation: foam skin
- Tin-plated copper wire braiding
- Outer sheath: halogen-free, flame-retardant compound
- Outer sheath: yellow

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable
- Certifications
  Version UNITRONIC® BUS SAFETY FC:
  AWM Style 2464 (80°C 300 V)
- Mutual capacitance
  (800 Hz): max. 45 nF/km
- Peak operating voltage
  (not for power applications): 250 V
- Conductor resistance
  (loop): max. 52 ohm/km
- Minimum bending radius
  Fixed installation:
  5 x outer diameter
- Test voltage
  Core/core: 3000 V
  Core/core: 1500 V (FD- version)
- Characteristic impedance
  120 ohm
- Temperature range
  UNITRONIC BUS SAFETY:
  Fixed installation: -30°C to +80°C
  UNITRONIC BUS SAFETY FD P:
  Fixed installation -40°C to +80°C
  Moved: -30 to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of cores and mm² per conductor</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2107885</td>
<td>UNITRONIC® BUS SAFETY FD P</td>
<td>3 × 0.75</td>
<td>7.8</td>
<td>49</td>
<td>68</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum.
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).
SafetyBUS p® is a registered trademark of Pilz GmbH & Co.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems
Sensor/actuator cabling • Flexible / highly flexible applications

UNITRONIC® SENSOR FD
High flexible cable for sensor/actuator cabling for use in drag chains, halogen-free

Benefits
- Designs for highly flexible use
- Abrasion-resistant
- Wear-resistant
- Space-saving due to compact dimensions

Application range
- Automation technology
- Sensor/actuator cabling
- Mechanical and plant engineering
- Assembly and production lines

Product features
- UV-resistant
- Halogen-free according to VDE 0472-815
- Flame-retardant according to IEC 60332-2-2, UL 1581 FT-2

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC001578
  ETIM 5.0/6.0 Class-Description: Flexible cable
- Peak operating voltage
  300 V (not for power applications)
- Conductor stranding
  Extra-fine wire acc. to VDE 0295, class 6 / IEC 60228 class 6
- Minimum bending radius
  Fixed installation: 5 x outer diameter
  Flexing: 10 x outer diameter
- Temperature range
  Occasional flexing: -25°C to +80°C
  Fixed installation: -40°C to +80°C

Table: UNITRONIC® SENSOR FD

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Dimensions (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Core/outer sheath material</th>
<th>Colour</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7038883</td>
<td>Lif9Y11Y</td>
<td>3 × 0.25</td>
<td>4.4</td>
<td>PP/PUR</td>
<td>black</td>
<td>7.5</td>
</tr>
<tr>
<td>7038867</td>
<td>Lif9Y11Y</td>
<td>5 × 0.25</td>
<td>4.7</td>
<td>PP/PUR</td>
<td>black</td>
<td>12</td>
</tr>
<tr>
<td>7038868</td>
<td>Lif9Y11Y</td>
<td>8 × 0.25</td>
<td>5.9</td>
<td>PP/PUR</td>
<td>black</td>
<td>19</td>
</tr>
<tr>
<td>7038864</td>
<td>Lif9Y11Y</td>
<td>3 × 0.34</td>
<td>4.6</td>
<td>PP/PUR</td>
<td>black</td>
<td>9.8</td>
</tr>
<tr>
<td>7038865</td>
<td>Lif9Y11Y</td>
<td>4 × 0.34</td>
<td>4.7</td>
<td>PP/PUR</td>
<td>black</td>
<td>13</td>
</tr>
<tr>
<td>7038866</td>
<td>Lif9Y11Y</td>
<td>5 × 0.34</td>
<td>5.1</td>
<td>PP/PUR</td>
<td>black</td>
<td>16</td>
</tr>
</tbody>
</table>

Table: UNITRONIC® SENSOR FD - optimized

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Dimensions (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Core/outer sheath material</th>
<th>Colour</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7038889</td>
<td>Lif9Y11Y</td>
<td>3 × 0.25</td>
<td>3.6</td>
<td>PP/PUR</td>
<td>black</td>
<td>7.5</td>
</tr>
<tr>
<td>7038890</td>
<td>Lif9Y11Y</td>
<td>4 × 0.25</td>
<td>3.8</td>
<td>PP/PUR</td>
<td>black</td>
<td>10.2</td>
</tr>
<tr>
<td>7038893</td>
<td>Lif9Y11Y</td>
<td>5 × 0.34</td>
<td>4.5</td>
<td>PP/PUR</td>
<td>black</td>
<td>16</td>
</tr>
</tbody>
</table>

Table: UNITRONIC® SENSOR FD screened

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Dimensions (mm²)</th>
<th>Outer diameter (mm)</th>
<th>Core/outer sheath material</th>
<th>Colour</th>
<th>Copper index (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7038885</td>
<td>Lif9YC11Y</td>
<td>3 × 0.34</td>
<td>4.3</td>
<td>PP/PUR</td>
<td>black</td>
<td>19.1</td>
</tr>
<tr>
<td>7038886</td>
<td>Lif9YC11Y</td>
<td>4 × 0.34</td>
<td>4.6</td>
<td>PP/PUR</td>
<td>black</td>
<td>23.5</td>
</tr>
<tr>
<td>7038887</td>
<td>Lif9YC11Y</td>
<td>5 × 0.34</td>
<td>5</td>
<td>PP/PUR</td>
<td>black</td>
<td>27.5</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150 / 100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Other types of composition are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
UNITRONIC® SENSOR M8
M8 plug/socket on free conductor end

Benefits
• Cost-efficient due to quick and easy installation
• Space-saving due to compact dimensions
• Fast and easy error tracking
• Gold-plated contacts for low transfer resistance

Application range
• For increased mechanical stress and harsh operating conditions

Product features
• UV-resistant
• Good resistance to oils and chemicals
• PWIS and PVC free
• Suitable for drag chains
• Including tag carrier

Norm references / Approvals
• Halogenfree according to DIN VDE 0472
• UL File Number: E249137
• Flame-retardant according to UL 1581 FT-2

Product Make-up
• Core cross section: 0.25 mm²
• Colour-code: 3-pin: bn (1), bu (3), bk (4)
  4-pin: bn (1), wh (2), bu (3), bk (4)
• Outer sheath: PUR, black

Suitable tools
• DATA STRIP stripping tool

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC001855</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord</td>
</tr>
</tbody>
</table>

Material
Contact: CuSn
Contact surface: Ni/Au
Knurl: Zinc die-cast, nickel-plated
Gripping body: TPU, flame-retardant, self-extinguishing

Minimum bending radius
Fixed installation: 5 x outer diameter
Flexing: 10 x outer diameter

Protection rating
IP65/IP67

Ambient temperature (operation)
Plug/socket -25°C to +90°C
Fixed installation -40°C to +80°C
Flexing -25°C to +80°C

Coding
A-standard
Rated current (A) 4 A

Table:

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pins</th>
<th>Length (m)</th>
<th>Design</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-pin Plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260204</td>
<td>AB-C3-M8MS-2,0PUR</td>
<td>3</td>
<td>2</td>
<td>straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260205</td>
<td>AB-C3-M8MS-5,0PUR</td>
<td>3</td>
<td>5</td>
<td>straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260218</td>
<td>AB-C3-M8MS-10,0PUR</td>
<td>3</td>
<td>10</td>
<td>straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260053</td>
<td>AB-C3-M8MA-2,0PUR</td>
<td>3</td>
<td>2</td>
<td>angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260967</td>
<td>AB-C3-M8MA-5,0PUR</td>
<td>3</td>
<td>5</td>
<td>angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260055</td>
<td>AB-C3-M8MA-10,0PUR</td>
<td>3</td>
<td>10</td>
<td>angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>4-pin Plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260300</td>
<td>AB-C4-M8MS-2,0PUR</td>
<td>4</td>
<td>2</td>
<td>straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260308</td>
<td>AB-C4-M8MS-5,0PUR</td>
<td>4</td>
<td>5</td>
<td>straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260318</td>
<td>AB-C4-M8MS-10,0PUR</td>
<td>4</td>
<td>10</td>
<td>straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260056</td>
<td>AB-C4-M8MA-2,0PUR</td>
<td>4</td>
<td>2</td>
<td>angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260057</td>
<td>AB-C4-M8MA-5,0PUR</td>
<td>4</td>
<td>5</td>
<td>angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260058</td>
<td>AB-C4-M8MA-10,0PUR</td>
<td>4</td>
<td>10</td>
<td>angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>4-pin Socket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260309</td>
<td>AB-C4-2,0PUR-M8FS</td>
<td>4</td>
<td>2</td>
<td>straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260310</td>
<td>AB-C4-5,0PUR-M8FS</td>
<td>4</td>
<td>5</td>
<td>straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260317</td>
<td>AB-C4-10,0PUR-M8FS</td>
<td>4</td>
<td>10</td>
<td>straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260311</td>
<td>AB-C4-2,0PUR-M8FA</td>
<td>4</td>
<td>2</td>
<td>angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260312</td>
<td>AB-C4-5,0PUR-M8FA</td>
<td>4</td>
<td>5</td>
<td>angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

UL certifications can be found in the data sheet.

For current information see: www.lappgroup.com
UNITRONIC® SENSOR M8-M8
M8 plug on M8 socket

Benefits
- Cost-efficient due to quick and easy installation
- Space-saving due to compact dimensions
- Fast and easy error tracking
- Gold-plated contacts for low transfer resistance

Norm references / Approvals
- Halogenfree according to DIN VDE 0472
- UL File Number: E249137
- Flame-retardant according to UL 1581 FT-2

Product Make-up
- Core cross section: 0.25 mm²
- Colour-code: 3-pin: bn (1), bu (3), bk (4)
  4-pin: bn (1), wh (2), bu (3), bk (4)
- Outer sheath: PUR, black

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC001855
  ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord

Material
- Contact: CuSn
- Contact surface: Ni/Au
- Knurl: Zinc die-cast, nickel-plated
- Gripping body: TPU, flame-retardant, self-extinguishing

Protection rating
- IP65/IP67

Ambient temperature (operation)
- Plug/socket: -25°C to +90°C
- Fixed installation: -40°C to +80°C
- Flexing: -25°C to +80°C

Coding
- A-standard
- Rated current (A): 4 A

Table: Article number

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pins</th>
<th>Length (m)</th>
<th>Design</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug on socket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-pin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260206</td>
<td>AB-C3-M8MS-0,3PUR-M8FS</td>
<td>3</td>
<td>0.3</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260207</td>
<td>AB-C3-M8MS-0,6PUR-M8FS</td>
<td>3</td>
<td>0.6</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260208</td>
<td>AB-C3-M8MS-1,0PUR-M8FS</td>
<td>3</td>
<td>1</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260209</td>
<td>AB-C3-M8MS-2,0PUR-M8FS</td>
<td>3</td>
<td>2</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260210</td>
<td>AB-C3-M8MS-0,3PUR-M8FA</td>
<td>3</td>
<td>0.3</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260211</td>
<td>AB-C3-M8MS-0,6PUR-M8FA</td>
<td>3</td>
<td>0.6</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260212</td>
<td>AB-C3-M8MS-1,0PUR-M8FA</td>
<td>3</td>
<td>1</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260213</td>
<td>AB-C3-M8MS-2,0PUR-M8FA</td>
<td>3</td>
<td>2</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260214</td>
<td>AB-C3-M8MS-0,3PUR-M8FA-2L</td>
<td>3</td>
<td>0.3</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260215</td>
<td>AB-C3-M8MS-0,6PUR-M8FA-2L</td>
<td>3</td>
<td>0.6</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260216</td>
<td>AB-C3-M8MS-1,0PUR-M8FA-2L</td>
<td>3</td>
<td>1</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260217</td>
<td>AB-C3-M8MS-2,0PUR-M8FA-2L</td>
<td>3</td>
<td>2</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>4-pin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260313</td>
<td>AB-C4-M8MS-0,3PUR-M8FS</td>
<td>4</td>
<td>0.3</td>
<td>straight-straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260314</td>
<td>AB-C4-M8MS-0,6PUR-M8FS</td>
<td>4</td>
<td>0.6</td>
<td>straight-straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260315</td>
<td>AB-C4-M8MS-1,0PUR-M8FS</td>
<td>4</td>
<td>1</td>
<td>straight-straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260316</td>
<td>AB-C4-M8MS-2,0PUR-M8FS</td>
<td>4</td>
<td>2</td>
<td>straight-straight</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260059</td>
<td>AB-C4-M8MS-0,3PUR-M8FA</td>
<td>4</td>
<td>0.3</td>
<td>straight-angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260060</td>
<td>AB-C4-M8MS-0,6PUR-M8FA</td>
<td>4</td>
<td>0.6</td>
<td>straight-angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>22260061</td>
<td>AB-C4-M8MS-1,0PUR-M8FA</td>
<td>4</td>
<td>1</td>
<td>straight-angled</td>
<td>no</td>
<td>30</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs and graphics are not to scale and do not represent detailed images of the respective products. UL certifications can be found in the data sheet.
UNITRONIC® SENSOR M8-M12
M8 plug on M12 socket

Benefits
- Cost-efficient due to quick and easy installation
- Space-saving due to compact dimensions
- Fast and easy error tracking
- Gold-plated contacts for low transfer resistance

Application range
- For increased mechanical stress and harsh operating conditions

Product features
- UV-resistant
- Good resistance to oils and chemicals
- PWIS and PVC free
- Suitable for drag chains
- Including tag carrier

Norm references / Approvals
- Halogenfree according to DIN VDE 0472
- UL File Number: E249137
- Flame-retardant according to UL 1581 FT-2

Product Make-up
- Core cross section: 0.25 mm²
- Colour-code: 3-pin: bn (1), bu (3), bk (4)
- Outer sheath: PUR, black

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC001855
  ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord
- Material
  Contact: CuSn
  Contact surface: Ni/Au
  Knurl: Zinc die-cast, nickel-plated
  Gripping body: TPU, flame-retardant, self-extinguishing
- Minimum bending radius
  Fixed installation: 5 x outer diameter
  Flexing: 10 x outer diameter
- Protection rating
  IP65/IP67
- Ambient temperature (operation)
  Plug/socket -25°C to +90°C
  Fixed installation -40°C to +80°C
  Flexing -25°C to +80°C
- Coding
  A-standard
- Rated current (A)
  4 A

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pins</th>
<th>Length (m)</th>
<th>Design</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>22260241</td>
<td>AB-C3-M8MS-0,3PUR-M12FS</td>
<td>3</td>
<td>0.3</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260242</td>
<td>AB-C3-M8MS-0,6PUR-M12FS</td>
<td>3</td>
<td>0.6</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260243</td>
<td>AB-C3-M8MS-1,0PUR-M12FS</td>
<td>3</td>
<td>1</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260244</td>
<td>AB-C3-M8MS-2,0PUR-M12FS</td>
<td>3</td>
<td>2</td>
<td>straight-straight</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260245</td>
<td>AB-C3-M8MS-0,3PUR-M12FA</td>
<td>3</td>
<td>0.3</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260246</td>
<td>AB-C3-M8MS-0,6PUR-M12FA</td>
<td>3</td>
<td>0.6</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260247</td>
<td>AB-C3-M8MS-1,0PUR-M12FA</td>
<td>3</td>
<td>1</td>
<td>straight-angled</td>
<td>no</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>22260248</td>
<td>AB-C3-M8MS-2,0PUR-M12FA</td>
<td>3</td>
<td>2</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260271</td>
<td>AB-C3-M8MS-0,3PUR-M12FA-2L</td>
<td>3</td>
<td>0.3</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260272</td>
<td>AB-C3-M8MS-0,6PUR-M12FA-2L</td>
<td>3</td>
<td>0.6</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260273</td>
<td>AB-C3-M8MS-1,0PUR-M12FA-2L</td>
<td>3</td>
<td>1</td>
<td>straight-angled</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
UL certifications can be found in the data sheet.
## UNITRONIC® SENSOR M12 open-ended Cordsets

**Benefits**
- Cost-saving due to quick and easy installation
- Space-saving due to compact dimensions
- Fast and easy error tracking
- Integrated vibration protection (mechanical lock-in)
- Gold-plated contacts for low transfer resistance

**Application range**
- For increased mechanical stress and harsh operating conditions

**Product features**
- UV-resistant
- Good resistance to oils and chemicals
- PWIS and PVC free
- Suitable for drag chains
- Including tag carrier

**Norm references / Approvals**
- Halogenfree according to DIN VDE 0472
- UL File Number: E249137
- Flame-retardant according to UL 1581 FT-2

**Product Make-up**
- Wire cross-section: 0.34mm² (8-pin: 0.25mm²)
- Colour-code:
  - 3-pin: bn (1), bu (3), bk (4)
  - 4-pin: bn (1), wh (2), bu (3), bk (4)
  - 5-pin: bn (1), wh (2), bu (3), bk (4), gn/ye (5)
  - 8-pin: wh (1), bn (2), gn (3), ye 4, gy (5), pk (6), bu (7), rd (8)
- Outer sheath: PUR, black

**Suitable tools**
- DATA STRIP stripping tool

### Technical data

- **Classification**
  - ETIM 5.0 Class-ID: ECO01855
  - ETIM 5.0 Class-Description: Sensor-actuator patch cord
- **Material**
  - Contact: CuSn
  - Contact surface: Ni/Au
  - Knurl: Zinc die-cast, nickel-plated
  - Gripping body: TPU, flame-retardant, self-extinguishing
- **Minimum bending radius**
  - Fixed installation: 5 x outer diameter
  - Flexing: 10 x outer diameter
- **Protection rating**
  - IP 65/IP 67
- **Ambient temperature (operation)**
  - Plug/socket: -25°C to +90°C
  - Fixed installation: -40°C to +80°C
  - Flexing: -25°C to +80°C
- **Coding**
  - A-standard
- **Rated current (A)**
  - 4 A
  - 2 A (8-pin)

### Norm references / Approvals

- Halogenfree according to DIN VDE 0472
- UL File Number: E249137
- Flame-retardant according to UL 1581 FT-2

### Product features

- UV-resistant
- Good resistance to oils and chemicals
- PWIS and PVC free
- Suitable for drag chains
- Including tag carrier

### Suitable tools

- DATA STRIP stripping tool

### Technical data

- **Classification**
  - ETIM 5.0 Class-ID: ECO01855
  - ETIM 5.0 Class-Description: Sensor-actuator patch cord
- **Material**
  - Contact: CuSn
  - Contact surface: Ni/Au
  - Knurl: Zinc die-cast, nickel-plated
  - Gripping body: TPU, flame-retardant, self-extinguishing
- **Minimum bending radius**
  - Fixed installation: 5 x outer diameter
  - Flexing: 10 x outer diameter
- **Protection rating**
  - IP 65/IP 67
- **Ambient temperature (operation)**
  - Plug/socket: -25°C to +90°C
  - Fixed installation: -40°C to +80°C
  - Flexing: -25°C to +80°C
- **Coding**
  - A-standard
- **Rated current (A)**
  - 4 A
  - 2 A (8-pin)

### Product Length Article number

<table>
<thead>
<tr>
<th>Product</th>
<th>Length</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug, unshielded</td>
<td>2.0m</td>
<td>22260221</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260223</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260320</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260301</td>
</tr>
<tr>
<td></td>
<td>5.0m</td>
<td>22260222</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260224</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260321</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260302</td>
</tr>
<tr>
<td></td>
<td>10.0m</td>
<td>22260249</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260256</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260342</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260303</td>
</tr>
<tr>
<td>Socket, unshielded</td>
<td>2.0m</td>
<td>22260257</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260258</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260322</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260324</td>
</tr>
<tr>
<td></td>
<td>5.0m</td>
<td>22260250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260259</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260323</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260325</td>
</tr>
<tr>
<td></td>
<td>10.0m</td>
<td>22260251</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260260</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260343</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260341</td>
</tr>
<tr>
<td>Socket with LEDs,</td>
<td>2.0m</td>
<td>22260252</td>
</tr>
<tr>
<td>unshielded</td>
<td></td>
<td>22260253</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260344</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260326</td>
</tr>
<tr>
<td></td>
<td>5.0m</td>
<td>22260265</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260254</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260345</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260327</td>
</tr>
<tr>
<td></td>
<td>10.0m</td>
<td>22260266</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260255</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260346</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260340</td>
</tr>
<tr>
<td>Plug, shielded</td>
<td>2.0m</td>
<td>22260453</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260459</td>
</tr>
<tr>
<td></td>
<td>5.0m</td>
<td>22260454</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260460</td>
</tr>
<tr>
<td></td>
<td>10.0m</td>
<td>22260455</td>
</tr>
<tr>
<td>Socket, shielded</td>
<td>2.0m</td>
<td>22260450</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260074</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260074</td>
</tr>
<tr>
<td></td>
<td>5.0m</td>
<td>22260451</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260675</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260675</td>
</tr>
<tr>
<td></td>
<td>10.0m</td>
<td>22260452</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260680</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260458</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22260680</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs and graphics are not to scale and do not represent detailed images of the respective products. UL certifications can be found in the data sheet.
UNITRONIC® SENSOR M12 Cordsets

Benefits
- Cost-saving due to quick and easy installation
- Space-saving due to compact dimensions
- Fast and easy error tracking
- Integrated vibration protection (mechanical lock-in)
- Gold-plated contacts for low transfer resistance

Application range
- For increased mechanical stress and harsh operating conditions

Product features
- UV-resistant
- Good resistance to oils and chemicals
- PWIS and PVC free
- Suitable for drag chains
- Including tag carrier

Norm references / Approvals
- Halogenfree according to DIN VDE 0472
- UL File Number: E249137
- Flame-retardant according to UL 1581 FT-2

Product Make-up
- Wire cross-section: 0.34mm² (8-pin: 0.25mm²)
- Colour-code: 3-pin: bn (1), bu (3), bk (4)
- 4-pin: bn (1), wh (2), bu (3), bk (4)
- 5-pin: bn (1), wh (2), bu (3), bk (4), gn/ye (5)
- 8-pin: wh (1), bn (2), gn (3), ye 4), gy (5), pk (6), bu (7), rd (8)
- Outer sheath: PUR, black

Technical data
- Classification
  ETIM 5.0 Class-ID: EC001855
  ETIM 5.0 Class-Description: Sensor-actuator patch cord
- Material
  Contact: CuSn
  Contact surface: Ni/Au
  Knurl: Zinc die-cast, nickel-plated
  Gripping body: TPU, flame-retardant, self-extinguishing
- Minimum bending radius
  Fixed installation: 5 x outer diameter
  Flexing: 10 x outer diameter
- Protection rating
  IP 65/1P 67
- Ambient temperature (operation)
  Plug/socket: -25°C to +90°C
  Fixed installation: -40°C to +80°C
  Flexing: -25°C to +80°C
- Coding
  A-standard
- Rated current (A)
  4 A
  2 A (8-pin)

Socket Length Article number
3-pins
straight 0.3m 22260233 22260328 22260329 22260330 22260331 22260332 22260333 22260334 22260335 22260336 22260337 22260338 22260339 22260340
0.6m 22260234 22260330 22260331 22260332 22260333 22260334 22260335 22260336 22260337 22260338 22260339 22260340
1.0m 22260235 22260331 22260332 22260333 22260334 22260335 22260336 22260337 22260338 22260339 22260340
2.0m 22260236 22260332 22260333 22260334 22260335 22260336 22260337 22260338 22260339 22260340

angled 0.3m 22260237 22260333 22260334 22260335 22260336 22260337 22260338 22260339 22260340
0.6m 22260238 22260334 22260335 22260336 22260337 22260338 22260339 22260340
1.0m 22260239 22260335 22260336 22260337 22260338 22260339 22260340
2.0m 22260240 22260336 22260337 22260338 22260339 22260340

angled, LEDs 0.3m 22260261 22260262 22260263 22260264 22260265 22260266 22260267 22260268 22260269 22260270 22260271 22260272 22260273 22260274
0.6m 22260262 22260263 22260264 22260265 22260266 22260267 22260268 22260269 22260270 22260271 22260272 22260273 22260274
1.0m 22260263 22260264 22260265 22260266 22260267 22260268 22260269 22260270 22260271 22260272 22260273 22260274
2.0m 22260264 22260265 22260266 22260267 22260268 22260269 22260270 22260271 22260272 22260273 22260274

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs and graphics are not to scale and do not represent detailed images of the respective products. UL certifications can be found in the data sheet.
UNITRONIC® SENSOR M12-M8
M12 plug on M8 socket

Benefits
- Good resistance to oils and chemicals
- PWIS and PVC free
- Suitable for drag chains
- Including tag carrier

Norm references / Approvals
- Halogenfree according to DIN VDE 0472
- UL File Number: E249137
- Flame-retardant according to UL 1581 FT-2

Product Make-up
- Core cross section: 0.25 mm²
- Colour-code:
  - 3-pin: bn (1), bu (3), bk (4)
  - 4-pin: bn (1), wh (2), bu (3), bk (4)
- Outer sheath: PUR, black

Technical data
- Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC001855
  - ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord

Material
- Contact: CuSn
- Contact surface: Ni/Au
- Knurl: Zinc die-cast, nickel-plated
- Gripping body: TPU, flame-retardant, self-extinguishing

Protection rating
- IP65/IP67

Ambient temperature (operation)
- Wtyczka/gniazdo -25°C to +90°C
- Fixed installation -40°C to +80°C
- Flexing -25°C to +80°C

Coding
- A-standard
- Rated current (A) 4 A

Article number | Article designation | Length (m) | Design | LED | Rated voltage (V) | PU
---|---|---|---|---|---|---
22260225 | AB-C3-M12MS-0,3PUR-M8FS | 0.3 | straight-straight | no | 60 | 1
22260226 | AB-C3-M12MS-0,6PUR-M8FS | 0.6 | straight-straight | no | 60 | 1
22260227 | AB-C3-M12MS-1,0PUR-M8FS | 1 | straight-straight | no | 60 | 1
22260228 | AB-C3-M12MS-2,0PUR-M8FS | 2 | straight-straight | no | 60 | 1
22260229 | AB-C3-M12MS-0,3PUR-M8FA | 0.3 | straight-angled | no | 60 | 1
22260230 | AB-C3-M12MS-0,6PUR-M8FA | 0.6 | straight-angled | no | 60 | 1
22260231 | AB-C3-M12MS-1,0PUR-M8FA | 1 | straight-angled | no | 60 | 1
22260232 | AB-C3-M12MS-2,0PUR-M8FA | 2 | straight-angled | no | 60 | 1
22260267 | AB-C3-M12MS-0,3PUR-M8FA-2L | 0.3 | straight-angled | 2 LEDs | 24 | 1
22260268 | AB-C3-M12MS-0,6PUR-M8FA-2L | 0.6 | straight-angled | 2 LEDs | 24 | 1

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

UL certifications can be found in the data sheet.
UNITRONIC® SENSOR Valve
data connector on free conductor end

Benefits
• Cost-saving due to quick and easy installation
• Space-saving due to compact dimensions
• Fast and easy error tracking

Product features
• Suitable for drag chains
• With protective circuit (Z diode), PE-bridged (except type AD)
• With LED status indicator (yellow) With display switch state (2 LEDs, red/green)
• Including tag carrier
• PWIS-free

Product Make-up
• 3 or 5 × 0.5 mm²
• Core identification code: Black cores with white numbers +green/yellow
• Outer sheath: PUR halogen-free, black
• Outer diameter: 4.5 mm (3 pins)
• 5.3 mm (5 pins)

Suitable tools
• DATA STRIP stripping tool
• DATA STRIP stripping tool

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC001855</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact: CuSn</td>
</tr>
<tr>
<td>Contact surface: Ag</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP65/IP67</td>
</tr>
</tbody>
</table>

Ambient temperature (operation)
Valve connector -20°C to +85°C
Fixed installation -40°C to +80°C
Flexing -20°C to +80°C

Coding
A-standard
Rated current (A) 4 A

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pins</th>
<th>Length (m)</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve connector type A (18 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260584</td>
<td>AB-C3-2,0PUR-A-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260576</td>
<td>AB-C3-5,0PUR-A-1L-S</td>
<td>3</td>
<td>5</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260577</td>
<td>AB-C3-10,0PUR-A-1L-S</td>
<td>3</td>
<td>10</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Valve connector type A (18mm) for pressure switch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260589</td>
<td>AB-C5-2,0PUR-AD-2L</td>
<td>5</td>
<td>2</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260590</td>
<td>AB-C5-5,0PUR-AD-2L</td>
<td>5</td>
<td>5</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260591</td>
<td>AB-C5-10,0PUR-AD-2L</td>
<td>5</td>
<td>10</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Valve connector type B (10 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260575</td>
<td>AB-C3-2,0PUR-B-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260578</td>
<td>AB-C3-5,0PUR-B-1L-S</td>
<td>3</td>
<td>5</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260579</td>
<td>AB-C3-10,0PUR-B-1L-S</td>
<td>3</td>
<td>10</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Valve connector type BI (11 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260586</td>
<td>AB-C3-2,0PUR-BI-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260580</td>
<td>AB-C3-5,0PUR-BI-1L-S</td>
<td>3</td>
<td>5</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260581</td>
<td>AB-C3-10,0PUR-BI-1L-S</td>
<td>3</td>
<td>10</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Valve connector type C (8 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260587</td>
<td>AB-C3-2,0PUR-C-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260582</td>
<td>AB-C3-5,0PUR-C-1L-S</td>
<td>3</td>
<td>5</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260583</td>
<td>AB-C3-10,0PUR-C-1L-S</td>
<td>3</td>
<td>10</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Valve connector type CI (9.4 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260588</td>
<td>AB-C3-2,0PUR-CI-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260574</td>
<td>AB-C3-5,0PUR-CI-1L-S</td>
<td>3</td>
<td>5</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260575</td>
<td>AB-C3-10,0PUR-CI-1L-S</td>
<td>3</td>
<td>10</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems

Sensor/actuator cabling • Valve connectors

UNITRONIC® SENSOR Valve-M12
valve connector on straight M12 plug

Benefits
• Cost-saving due to quick and easy installation
• Space-saving due to compact dimensions
• Fast and easy error tracking

Product features
• Suitable for drag chains
• With protective circuit (Z diode), PE-bridged (except type AD)
• With LED status indicator (yellow)
With display switch state (2 LEDs, red/green)
• Including tag carrier
• PWIS-free

Product Make-up
• 3 or 5 × 0.5 mm²
• Core identification code: Black cores with white numbers + green/yellow
• Outer sheath: PUR halogen-free, black
• Outer diameter: 4.5 mm (3 pins)
5.3 mm (5 pins)

Technical data
• Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC001855
  ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord

Material
Contact: CuSn
Contact surface: Ni/Au
Knurl: Zinc die-cast, nickel-plated
Gripping body: TPU, flame-retardant, self-extinguishing

Protection rating
IP65/IP67

Ambient temperature (operation)
Valve connector -20°C to +85°C
Connector/socket -25°C to +90°C
Fixed installation -40°C to +80°C
Flexing -20°C to +80°C

Coding
A-standard
Rated current (A)
4 A

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pins</th>
<th>Length (m)</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>22260550</td>
<td>AB-C3-M12MS-0,3PUR-A-1L-S</td>
<td>3</td>
<td>0.3</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260551</td>
<td>AB-C3-M12MS-0,6PUR-A-1L-S</td>
<td>3</td>
<td>0.6</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260552</td>
<td>AB-C3-M12MS-1,0PUR-A-1L-S</td>
<td>3</td>
<td>1</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260553</td>
<td>AB-C3-M12MS-2,0PUR-A-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260573</td>
<td>AB-C5-M12MS-0,3PUR-AD-2L</td>
<td>5</td>
<td>0.3</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260572</td>
<td>AB-C5-M12MS-0,6PUR-AD-2L</td>
<td>5</td>
<td>0.6</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260571</td>
<td>AB-C5-M12MS-1,0PUR-AD-2L</td>
<td>5</td>
<td>1</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260570</td>
<td>AB-C5-M12MS-2,0PUR-AD-2L</td>
<td>5</td>
<td>2</td>
<td>2 LEDs</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260558</td>
<td>AB-C3-M12MS-0,3PUR-B-1L-S</td>
<td>3</td>
<td>0.3</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260559</td>
<td>AB-C3-M12MS-0,6PUR-B-1L-S</td>
<td>3</td>
<td>0.6</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260560</td>
<td>AB-C3-M12MS-1,0PUR-B-1L-S</td>
<td>3</td>
<td>1</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260561</td>
<td>AB-C3-M12MS-2,0PUR-B-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260554</td>
<td>AB-C3-M12MS-0,3PUR-BI-1L-S</td>
<td>3</td>
<td>0.3</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260555</td>
<td>AB-C3-M12MS-0,6PUR-BI-1L-S</td>
<td>3</td>
<td>0.6</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260556</td>
<td>AB-C3-M12MS-1,0PUR-BI-1L-S</td>
<td>3</td>
<td>1</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260557</td>
<td>AB-C3-M12MS-2,0PUR-BI-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260566</td>
<td>AB-C3-M12MS-0,3PUR-C-1L-S</td>
<td>3</td>
<td>0.3</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260567</td>
<td>AB-C3-M12MS-0,6PUR-C-1L-S</td>
<td>3</td>
<td>0.6</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260568</td>
<td>AB-C3-M12MS-1,0PUR-C-1L-S</td>
<td>3</td>
<td>1</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>22260569</td>
<td>AB-C3-M12MS-2,0PUR-C-1L-S</td>
<td>3</td>
<td>2</td>
<td>1 LED</td>
<td>24</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
UNITRONIC® SENSOR M12Y
M12 Y plug straight on 2x free conductor end

Benefits
• Cost-saving due to quick and easy installation
• Space-saving due to compact dimensions

Product features
• 4-pin M12Y plug on free conductor end
• Including tag carrier
• PWIS-free
• Suitable for drag chains

Product Make-up
• 3 × 0.34 mm²
• Core colours: bn, bu, bk
• Outer sheath: PUR halogen-free, black

Suitable tools
• DATA STRIP stripping tool
• DATA STRIP stripping tool

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
<th>ETIM 5.0/6.0 Class-ID: EC001855</th>
<th>ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord</th>
</tr>
</thead>
</table>

Material
Contact: CuSn
Contact surface: Ni/Au
Knurl: Zinc die-cast, nickel-plated
Gripping body: TPU, flame-retardant, self-extinguishing

Protection rating
IP65/IP67

Ambient temperature (operation)
Wyżnica/gniazdo -25°C do +90°C
Fixed installation -40°C to +80°C
Flexing -25°C to +80°C

Coding
A-standard

Rated current (A)
4 A

Table:

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Length (m)</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>22260500</td>
<td>AB-C3-M12Y-2,0PUR</td>
<td>2</td>
<td>no</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260513</td>
<td>AB-C3-M12Y-5,0PUR</td>
<td>5</td>
<td>no</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td>22260526</td>
<td>AB-C3-M12Y-10,0PUR</td>
<td>10</td>
<td>no</td>
<td>250</td>
<td>1</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges. Photographs and graphics are not to scale and do not represent detailed images of the respective products. UL certifications can be found in the data sheet.
UNITRONIC® SENSOR M12Y-M8

M12 Y plug straight on 2x M8 socket

Benefits
• Cost-saving due to quick and easy installation
• Space-saving due to compact dimensions
• Fast and easy error tracking

Product features
• 4-pin M12Y connector on 2 × M12 socket (4-pin), Pin 2+4 bridged
• 4-pin M12Y plug on 2 × M8 socket (3-pin)
• Including tag carrier
• PWIS-free
• Suitable for drag chains

Product Make-up
• M12Y-M8: 3 × 0.25 mm²
M12Y-M12: 3 × 0.34 mm²
• Core colours: bn, bu, bk
• Outer sheath: PUR halogen-free, black

Technical data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC001855
ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord

Material
Contact: CuSn
Contact surface: Ni/Au
Knurl: Zinc die-cast, nickel-plated
Gripping body: TPU, flame-retardant, self-extinguishing

Protection rating
IP65/IP67

Ambient temperature (operation)
Wtyczka/gniazdo -25°C to +90°C
Fixed installation -40°C to +80°C
Flexing -25°C to +80°C

Coding
A-standard
Rated current (A)
4 A

Table: Article number, Article designation, Number of pins, Length (m), LED, Rated voltage (V), PU

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pins</th>
<th>Length (m)</th>
<th>LED</th>
<th>Rated voltage (V)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12Y on 2x M8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Straight socket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260514</td>
<td>AB-C3-M12Y-0,3PUR-M8FS 3 0.3 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260515</td>
<td>AB-C3-M12Y-0,6PUR-M8FS 3 0.6 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260516</td>
<td>AB-C3-M12Y-1,0PUR-M8FS 3 1 1 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260517</td>
<td>AB-C3-M12Y-2,0PUR-M8FS 3 2 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angled socket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260518</td>
<td>AB-C3-M12Y-0,3PUR-M8FA 3 0.3 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260519</td>
<td>AB-C3-M12Y-0,6PUR-M8FA 3 0.6 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260520</td>
<td>AB-C3-M12Y-1,0PUR-M8FA 3 1 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260521</td>
<td>AB-C3-M12Y-2,0PUR-M8FA 3 2 no 60 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angled socket with LEDs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260522</td>
<td>AB-C3-M12Y-0,3PUR-M8FA-2L 3 0.3 2 LEDs 24 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260523</td>
<td>AB-C3-M12Y-0,6PUR-M8FA-2L 3 0.6 2 LEDs 24 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260524</td>
<td>AB-C3-M12Y-1,0PUR-M8FA-2L 3 1 2 LEDs 24 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22260525</td>
<td>AB-C3-M12Y-2,0PUR-M8FA-2L 3 2 2 LEDs 24 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

UL certifications can be found in the data sheet.
UNITRONIC® SENSOR M12Y-M12
M12 Y plug straight on 2x M12 socket

Benefits
- Cost-saving due to quick and easy installation
- Space-saving due to compact dimensions
- Fast and easy error tracking

Product features
- 4-pin M12Y connector on 2 x M12 socket (4-pin), Pin 2+4 bridged
- 4-pin M12Y plug on 2 x M8 socket (3-pin)
- Including tag carrier
- PWIS-free
- Suitable for drag chains

Product Make-up
- M12Y-M8: 3 x 0.25 mm²
- M12Y-M12: 3 x 0.34 mm²
- Core colours: bn, bu, bk
- Outer sheath: PUR halogen-free, black

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC001855
  ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord
- Material
  Contact: CuSn
  Contact surface: Ni/Au
  Knurl: Zinc die-cast, nickel-plated
  Gripping body: TPU, flame-retardant, self-extinguishing
- Protection rating
  IP65/IP67
- Ambient temperature (operation)
  Workpiece/gniazdo: -25°C to +90°C
  Fixed installation: -40°C to +80°C
  Flexing: -25°C to +80°C
- Coding
  A-standard
- Rated current (A)
  4 A

Data communication systems
Sensor/actuator cabling • Y connectors

Article number | Article designation | Number of pins | Length (m) | LED | Rated voltage (V) | PU |
---|---|---|---|---|---|---|
M12 on 2x M12 Straight socket
22260501 AB-C3-M12Y-0.3PUR-M12FS-B 3 0.3 no 250 1
22260502 AB-C3-M12Y-0.6PUR-M12FS-B 3 0.6 no 250 1
22260503 AB-C3-M12Y-1.0PUR-M12FS-B 3 1 no 250 1
22260504 AB-C3-M12Y-2.0PUR-M12FS-B 3 2 no 250 1
Angled socket
22260505 AB-C3-M12Y-0.3PUR-M12FA-B 3 0.3 no 250 1
22260506 AB-C3-M12Y-0.6PUR-M12FA-B 3 0.6 no 250 1
22260507 AB-C3-M12Y-1.0PUR-M12FA-B 3 1 no 250 1
22260508 AB-C3-M12Y-2.0PUR-M12FA-B 3 2 no 250 1
Angled socket with LEDs
22260509 AB-C3-M12Y-0.3PUR-M12FA-2L-B 3 0.3 2 LEDs 24 1
22260510 AB-C3-M12Y-0.6PUR-M12FA-2L-B 3 0.6 2 LEDs 24 1
22260511 AB-C3-M12Y-1.0PUR-M12FA-2L-B 3 1 2 LEDs 24 1
22260512 AB-C3-M12Y-2.0PUR-M12FA-2L-B 3 2 2 LEDs 24 1

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges. Photographs and graphics are not to scale and do not represent detailed images of the respective products. UL certifications can be found in the data sheet.

For current information see: www.lappgroup.com
Data communication systems

Sensor/actuator cabling • M12 Power cordsets (A-coded)

UNITRONIC® SENSOR M12 Power
Power cable: M12 plug/socket on free conductor

Benefits
- Cost-effective, efficient wiring of fieldbus and sensor/actuator installations
- Space-saving due to compact dimensions
- Customise assembly of the free conductor end

Product features
- 4-core power cable
- M12 connector, A-coded with quick-locking system
- Including tag carrier
- Suitable for drag chains
- PWIS-free

Product Make-up
- 4 x 0.75 mm²
- 4-pin: bn (1), wh (2), bu (3), bk (4)
- Core insulation: PVC
- Outer sheath: PUR, black
- Outer diameter: 5.9 mm

Suitable tools
- DATA STRIP stripping tool
- DATA STRIP stripping tool

Suitable connectors
- EPIC® SENSOR M12

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC001855
  ETIM 5.0/6.0 Class-Description: Sensor-actuator patch cord

Material
- Contact: CuSn
- Contact surface: Ni/Au
- Knurl: Zinc die-cast, nickel-plated
- Gripping body: TPU, flame-retardant, self-extinguishing

Protection rating
- IP65/IP67

Ambient temperature (operation)
- Plug/socket: -25°C to +90°C
- Fixed installation: -25°C to +80°C
- Flexing: -5°C to +80°C

Coding
- A-standard

Rated current (A)
- 4 A

Article number | Article designation | Number of pins | Length (m) | Design | Rated voltage (V) | PU
--- | --- | --- | --- | --- | --- | ---
22260778 | AB-PC4-M12MS-2,0PUR | 4 | 2 | straight | 250 | 1
22260779 | AB-PC4-M12MS-5,0PUR | 4 | 5 | straight | 250 | 1
22260780 | AB-PC4-M12MS-10,0PUR | 4 | 10 | straight | 250 | 1

Straight connector

22260781 | AB-PC4-2,0PUR-M12FS | 4 | 2 | straight | 250 | 1
22260782 | AB-PC4-5,0PUR-M12FS | 4 | 5 | straight | 250 | 1
22260783 | AB-PC4-10,0PUR-M12FS | 4 | 10 | straight | 250 | 1

Straight socket

 Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g., tolerances) are available upon request.

Copper price basis: inclusive of copper. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Our ETHERLINE® branded products open up a secure, fast and reliable path to the future of Ethernet applications, e.g. PROFINET®. The systems are made up of durable and robust cables and connection components for passive and active network technology, and deliver an effective solution for almost any application, particularly in an industrial environment.

**Application range**
- Industry and building networks
- Industrial machinery and plant engineering
- Automation technology
- Control engineering
ETHERLINE® Cat.5e FD
Ethernet cable Category 5e, Class D for use in drag chain applications – verified up to 100 MHz

Benefits
- Seamless communication from the sensor/actuator level to the Internet
- Screened against interference
- Can be used in dry or damp rooms
- Industrial use
- Cables with PUR jacket: 1000 V UL-rating for installation next to power cables

Application range
- 2 pair: 10/100 Mbit/s for Industrial Ethernet
- 4 pair: 10/100/1000 Mbit/s for Industrial Ethernet
- Only for patch cable applications (max. 60 m)
- Suitable for EtherCAT and EtherNet/IP applications
- Power chain applications

Product features
- Premium screening against electromagnetic interference
- PUR outer sheath is highly resistant to mineral oils and abrasion
- Halogen-free outer sheath
- Cables with PUR jacket: 1000 V UL-rating for installation next to power cables

Norm references / Approvals
- PUR versions: UL AWM Style 21576
- Flame-retardant according IEC 60332-1-2
- Halogen-free according to IEC 60754-1 (amount of halogen acid gas)
- Corrosiveness of combustion gases according to IEC 60754-2 (degree of acidity)

Product Make-up
- Bare stranded copper wire, 26 AWG (19 × 0.10), (0.14 mm²)
- Inner sheath: thermoplastic elastomer, halogen-free
- 2 or 4-pair version
- Screening: wrapped with braided tinned-copper wires
- PUR outer sheath
- Colour: water blue (RAL 5021)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable
- Peak operating voltage (not for power applications) 125 V
- Minimum bending radius Fixed installation: 8 × outer diameter Flexing: 15 × outer diameter
- Test voltage Core/core: 1000 V Core/screen: 500 V
- Characteristic impedance 100 Ω ± 15%
- Temperature range cable with PUR jacket Fixed installation: VDE -30°C to +80°C; UL/CSA -30°C to +80°C Flexing: VDE -5°C to +50°C; UL/CSA -5°C to +80°C

Table 1

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and AWG per conductor</th>
<th>Core diameter (in mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170289</td>
<td>ETHERLINE® FD P Cat.5e 2</td>
<td>2 × 2 × AWG26/19</td>
<td>1</td>
<td>5.9</td>
<td>20</td>
<td>48</td>
</tr>
<tr>
<td>2170489</td>
<td>ETHERLINE® FD P Cat.5e 4</td>
<td>4 × 2 × AWG26/19</td>
<td>1</td>
<td>6.3</td>
<td>27</td>
<td>54</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: Coil 100 m; Drum (500; 1000) m
Detailed data sheets are available upon request. Please specify the type/dimensions of the required cable.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Data communication systems for ETHERNET technology
Industrial Ethernet, Cat.5 / 5e • Cables for continuous flexing applications

ETHERLINE® Cat.5 FD BK
Ethernet cable Category 5e, Class D for installation in events - verified up to 100 MHz

Info
• For highly flexible industrial applications
• Cat.5e-Performance
• Only for patch cable applications (max. 60 m)

Benefits
• Additional application options thanks to suitability for outdoor use, UV-resistant
• Good flexibility - easy installation with tight space requirements
• Screened against interference
• Easy to coil for mobile use

Application range
• IEEE 802.3: 10 / 100 / 1000Base-T
IEEE 802.5: ISDN; FDDI; ATM
• Suitable for the transfer of audio signals (ETHERSOUND), light control signals (DMX over Ethernet), or for computer networking
• Only for patch cable applications (max. 60 m)
• Suitable for EtherCAT and EtherNet/IP applications
• 4pair: 10/100/1000 Mbit/s for Industrial Ethernet

Product features
• CAT.5-Performance
• Specifically developed for road environments
• Suitable for outdoor use, UV-resistant
• PUR outer sheath is highly resistant to mineral oils and abrasion
• Premium screening against electromagnetic interference

Norm references / Approvals
• UL AWM Style 21576
• Flame retardant acc. to IEC 60332-1-2
• Halogen-free according to IEC 60754-1 (amount of halogen acid gas)
• Corrosiveness of combustion gases according to IEC 60754-2 (degree of acidity)

Product Make-up
• Bare stranded copper wire, 26 AWG (19 × 0.10), (0.14 mm²)
• Insulation: foam skin, max. core diameter 1.0 mm
• Twisting: 2 twisted-pair cores, stranding from 4 pairs
• Inner sheath: thermoplastic elastomer, halogen-free
• Screening: wrapped with braided tinned-copper wires
• Outer sheath: halogen-free PUR, black

Technical data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000830
ETIM 5.0/6.0 Class-Description: Data cable

Peak operating voltage (not for power applications)
125 V

Minimum bending radius
Flexing: 15 × outer diameter
Fixed installation: 8 × outer diameter

Test voltage
Core/core: 1000 V
Core/screen: 500 V

Characteristic impedance
100 Ω ± 15%

Temperature range
cable with PUR jacket
Fixed installation: VDE -30°C to +80°C;
UL/CSA -30°C to +80°C
flexing: VDE -5°C to +50°C;
UL/CSA -5°C to +80°C

Article number | Article designation | Number of pairs and AWG per conductor | Core diameter (in mm) | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km)
--- | --- | --- | --- | --- | --- | ---
CE217489 | ETHERLINE® FD P BK Cat.5 | 4x2xAWG26/19 | 1 | 6.3 | 27 | 54

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Standard lengths: (100; 500; 1000) m
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum
Please specify the preferred type of packaging (e.g. 1 × 500 m drum or 5 × 100 m coils).
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
ETHERLINE® EC FD Cat.5e
Highly flexible application

Benefits
- Can be used for Industrial Ethernet in harsh industrial environments
- Can be used in dry or damp rooms
- Lower space requirement

Application range
- Suitable for EtherCAT and EtherNet/IP applications
- For highly flexible applications (power chains, moving machine parts)
- Many applications with Industrial Ethernet, e.g. EtherCat, i.e. fixed installation, flexible and highly flexible use
- For internal wiring of electric and electronic equipment in switch cabinets
- Only for patch cable applications (max. 60 m)

Product features
- PUR outer sheath, halogen-free
- Meets the requirements according to Cat. 5e and class D
- High-quality, double screening ensures high transmission reliability in areas with electromagnetic interference

Norm references / Approvals
- UL/CSA type CMX in accordance with UL 444 and CSA C22.2 no. 214-02
- Flame-retardant according to UL VW1/CSA FT1
- Halogen-free according to VDE 0472-815

Product Make-up
- Bare stranded copper wire, 26AWG
  (19 × 0.10), (0.14 mm²)
- Core insulation: PE
- Insulation colour-codes: orange/white-orange; green/white-green
- Star quad
- SF/UTP: braid of tinned copper wire and plastic laminated aluminum foil as overall screening
- Outer sheath: PUR compound, halogen-free
- Colour: green (based on RAL 6018)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000830</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
</tr>
</tbody>
</table>

- Peak operating voltage
  max. 100 V
  (not for power applications)

- Minimum bending radius
  Fixed installation: 4 × Outer diameter
  Flexing: 16 × outer diameter

- Characteristic impedance
  100 Ω ± 15%

- Temperature range
  Fixed installation: -40°C to +80°C
  Flexing: -30°C to +50°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and AWG per conductor</th>
<th>Core diameter (in mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170433</td>
<td>ETHERLINE® P EC FD Cat.5e</td>
<td>1 × 4 × AWG26/19</td>
<td>1.03</td>
<td>4.8</td>
<td>20</td>
<td>35</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Detailed data sheets are available upon request. Please specify the type/dimensions of the required cable.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Data communication systems for ETHERNET technology
PROFINET, Cat.5 • Type C - Cables for continuous flexing applications

ETHERLINE® PN Cat.5 FD
Highly flexible application

Info
- Highly flexible application
- For PROFINET applications

Benefits
- Can be used in dry or damp rooms
- Screened against interference
- Can be used for Industrial Ethernet in harsh industrial environments
- 2-pair: 10/100 Mbit/s for Industrial Ethernet

Application range
- Power chain applications
- Wiring of machines, tools, devices, appliances and control cabinets
- Max. cable length for 100 Mbit/s is 85 m
- Suitable for EtherCAT and EtherNet/ IP applications

Product features
- CAT.5-Performance
- PUR outer sheath is highly resistant to mineral oils and abrasion
- Flame-retardant according IEC 60332-1-2
- Optimized cable construction for power chain use
- Broad usages due to halogen-free materials

Norm references / Approvals
- UL/CSA type CMX (UL 444)

Product Make-up
- Fine-wire strand made of tinned-copper wires
- Star quad
- Colour-coded in accordance with PROFINET for Cat.5 applications
- Inner sheath: thermoplastic copolymer (FRNC)
- Overall screening with copper braid and plastic-laminated aluminium foil
- PUR outer sheath, halogen-free
- Colour: green (based on RAL 6018)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000830</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
</tr>
</tbody>
</table>

| Peak operating voltage (not for power applications) |
| 125 V |

| Minimum bending radius |
| 8 × outer diameter |

| Test voltage |
| Core/core: 700 V |
| Core/screen: 700 V |

| Characteristic impedance |
| 100 Ω ± 15% |

| Temperature range |
| Fixed installation: -30°C to +70°C |
| Flexing: -20°C to +60°C |

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and AWG per conductor</th>
<th>Core diameter (in mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2170894</td>
<td>ETHERLINE® PN Cat.5 FD</td>
<td>2 x 2 x AWG22/7</td>
<td>1.5</td>
<td>6.5</td>
<td>31.3</td>
<td>63</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
ETHERLINE® CAT.6 FD
Ethernet cable Category 6, Class E for use in drag chain applications - verified up to 250 MHz

Benefits
- Highly flexible data cable with PUR outer sheath, meets the highest service life requirements, even under harsh climatic conditions
- Premium screening against electromagnetic interference

Application range
- For use in drag chains and moving machinery parts in dry or damp rooms
- Only for patch cable applications (max. 60 m)
- Suitable for EtherCAT and EtherNet/IP applications
- Plant engineering, machinery manufacturing
- 4pair: 10/100/1000 Mbit/s for Industrial Ethernet

Product features
- Flame-retardant according IEC 60332-1-2
- PUR outer sheath is resistant to most oils and hydraulic fluids
- CAT.6 for drag chain!
- Min. 1 million bending cycles in the drag chain

Norm references / Approvals
- UL/CSA type CMX (UL 444)

Product Make-up
- Stranded conductor, tinned
- AWG 26 (19-wire)
- PP core insulation
- Inner sheath: thermoplastic copolymer (FRNC)
- SF/UTP: braid of tinned copper wire and plastic laminated aluminum foil as overall screening
- PUR outer sheath, halogen-free
- Colour: green (based on RAL 6018)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000830
  ETIM 5.0/6.0 Class-Description: Data cable
- Peak operating voltage
  max. 100 V
  (not for power applications)
- Minimum bending radius
  Fixed installation: 4 × outer diameter
  Flexing: 7.5 × outer diameter
- Test voltage
  700 V
- Characteristic impedance
  nom. 100 Ω acc. to IEC 61156-6
- Temperature range
  Fixed installation: -40°C to +80°C
  Flexing: -30°C to +70°C

Article number    Article designation    Number of pairs and AWG per conductor    Core diameter (in mm)    Outer diameter (mm)    Copper index (kg/km)    Weight (kg/km)
2170488          ETHERLINER CAT.6 FD      4 × 2 × AWG26/19                   0.98                      7.8             31.7               63

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
ETHERLINE® FD CAT.6A
Ethernet cable Category 6A, Class EA for highly flexible use with FC inner sheath - verified up to 500 MHz

Info
CAT.6A for drag chain, qualified for 10Gbit/s
For PROFINET applications with 4 pairs

Benefits
- For use in power chains and moving machinery parts in dry or damp rooms
- 4 pair: 100 Mbit/s up to 10 Gbit/s for Industrial Ethernet
- Premium screening against electromagnetic interference
- Can be used for Industrial Ethernet in harsh industrial environments

Application range
- For highly flexible applications (e.g. power chains)
- Wiring of machines, tools, devices, appliances and control cabinets
- Max. cable length for 100 Mbit/s is 85 m
- Max. cable length for 100 Mbit/s is 85 m
- Suitable for EtherCAT and EtherNet/IP applications

Product features
- PUR version is halogen-free according to IEC 60754
- Oil-resistant acc. IEC 60811-2-1
- CAT.6A for drag chain, qualified for 10Gbit/s
- Meets the requirements according to CAT.6A, ISO/IEC 11801 and EN 50173
- Min. 2.5 million bending cycles in the power chain

Norm references / Approvals
- Electrical requirements acc. to IEC 61156-6
- PUR cable is UL/CSA-certified (CMX)
- PUR versions: UL AWM Style 21576
- PVC cable is UL/CSA-certified (CM)
- Flame retardant acc. to IEC 60332-1-2

Product Make-up
- 7 wire tinned stranded copper conductor
- Core insulation: Based on Polyolefin
- 4/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Outer sheath: PUR, halogen-free/PVC
- Colour: green (based on RAL 6018)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000830</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Data cable</td>
</tr>
</tbody>
</table>

Minimum bending radius
- Flexing: 15 x outer diameter
- Fixed installation: 8 x cable diameter

Characteristic impedance
- 100 Ohm

Temperature range
- Cable with PUR jacket
  - Fixed installation: -40°C to +80°C
  - Flexing: -30°C to +70°C
- Cable with PVC jacket
  - Fixed installation: -10°C to +80°C
  - Flexing: -10°C to +70°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Number of pairs and AWG per conductor</th>
<th>Core diameter (in mm)</th>
<th>Outer diameter (mm)</th>
<th>Copper index (kg/km)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC sheath</td>
<td>ETHERLINE® FD CAT.6A</td>
<td>4 x 2 x AWG24/7</td>
<td>1.3</td>
<td>8.9</td>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td>PUR outer sheath, halogen-free</td>
<td>ETHERLINE® FD P CAT.6A</td>
<td>4 x 2 x AWG24/7</td>
<td>1.3</td>
<td>8.9</td>
<td>44</td>
<td>90</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

PROFINET® is a registered trademark of the PNO (PROFIBUS user organisation)

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
ETHERLINE® EC FD Cat.5e Patch cables

Benefits
• Non-permanent connections allow for easy change of equipment
• For directly connecting two electric components

Application range
• Suitable for EtherCAT and EtherNet/IP applications
• Suitable for use in industrial applications
• For indoor use
• For highly flexible applications

Product features
• Meets the requirements according to Cat.5e and class D
• 2 pairs: 10/100 Mbit/s for Industrial Ethernet

Product Make-up
• Braided conductor, 2x2x AWG26/19
• Overall screening with copper braid and plastic-laminated aluminium foil
• Outer sheath made of PUR, 4.8mm in diameter
• Colour: green (based on RAL 6018)

Technical data

<table>
<thead>
<tr>
<th>Classification</th>
<th>ETIM 5.0/6.0: EC002599</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Patch cord copper (twisted pair) industry</td>
</tr>
<tr>
<td>Minimum bending radius</td>
<td>Flexing: 8 x outer diameter</td>
</tr>
<tr>
<td>Fixed installation</td>
<td>4 x outer diameter</td>
</tr>
<tr>
<td>Protection rating</td>
<td>M8: IP 67</td>
</tr>
<tr>
<td>M12: IP 67</td>
<td></td>
</tr>
<tr>
<td>RJ45: IP 20</td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>During installation: -30°C to +50°C</td>
</tr>
<tr>
<td>Fixed installation</td>
<td>-40°C to +80°C</td>
</tr>
<tr>
<td>Coding</td>
<td>M8: A-Standard</td>
</tr>
<tr>
<td>M12: D-Standard</td>
<td></td>
</tr>
</tbody>
</table>

Data communication systems for ETHERNET technology

Industrial Ethernet, Cat.5/5e • Patch cables for continuous flexing applications

For current information see: www.lappgroup.com

ACCESSORIES
APPENDIX

Info
• Suitable for drag chains
• Additional variants are available at www.lappgroup.com/assemblyfinder or on request

<table>
<thead>
<tr>
<th>Length</th>
<th>RJ45</th>
<th>M12, plug, straight</th>
<th>M12, plug, angled</th>
<th>M12, socket, straight</th>
<th>M8, plug, straight</th>
<th>M8, plug, angled</th>
<th>Open end</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0m</td>
<td>2171765</td>
<td>2171751</td>
<td>2171924</td>
<td>2171758</td>
<td>On request</td>
<td>On request</td>
<td>2171772</td>
</tr>
<tr>
<td>2.0m</td>
<td>2171766</td>
<td>2171752</td>
<td>2171925</td>
<td>2171759</td>
<td>On request</td>
<td>2171773</td>
<td></td>
</tr>
<tr>
<td>5.0m</td>
<td>2171768</td>
<td>2171754</td>
<td>2171927</td>
<td>2171761</td>
<td>2171775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0m</td>
<td>2171769</td>
<td>2171755</td>
<td>2171928</td>
<td>2171762</td>
<td>2171776</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0m</td>
<td>2171771</td>
<td>2171779</td>
<td>2171937</td>
<td>2171793</td>
<td>On request</td>
<td>2171794</td>
<td></td>
</tr>
<tr>
<td>2.0m</td>
<td>2171772</td>
<td>2171780</td>
<td>2171938</td>
<td>2171794</td>
<td>On request</td>
<td>2171798</td>
<td></td>
</tr>
<tr>
<td>5.0m</td>
<td>2171773</td>
<td>2171782</td>
<td>2171939</td>
<td>2171795</td>
<td>On request</td>
<td>2171801</td>
<td></td>
</tr>
<tr>
<td>10.0m</td>
<td>2171775</td>
<td>2171783</td>
<td>2171940</td>
<td>2171796</td>
<td>On request</td>
<td>2171803</td>
<td></td>
</tr>
<tr>
<td>1.0m</td>
<td>2171798</td>
<td>2171786</td>
<td>2171947</td>
<td>2171797</td>
<td>On request</td>
<td>2171817</td>
<td></td>
</tr>
<tr>
<td>2.0m</td>
<td>2171799</td>
<td>2171787</td>
<td>2171948</td>
<td>2171798</td>
<td>On request</td>
<td>2171821</td>
<td></td>
</tr>
<tr>
<td>5.0m</td>
<td>2171800</td>
<td>2171789</td>
<td>2171949</td>
<td>2171799</td>
<td>On request</td>
<td>2171847</td>
<td></td>
</tr>
<tr>
<td>10.0m</td>
<td>2171801</td>
<td>2171790</td>
<td>2171950</td>
<td>2171802</td>
<td>On request</td>
<td>2171853</td>
<td></td>
</tr>
<tr>
<td>1.0m</td>
<td>2171737</td>
<td>2171738</td>
<td>2171740</td>
<td>On request</td>
<td>On request</td>
<td>On request</td>
<td></td>
</tr>
<tr>
<td>2.0m</td>
<td>2171738</td>
<td>2171739</td>
<td>2171741</td>
<td>On request</td>
<td>2171742</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0m</td>
<td>2171739</td>
<td>2171740</td>
<td>2171742</td>
<td>On request</td>
<td>2171743</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0m</td>
<td>2171740</td>
<td>2171741</td>
<td>2171743</td>
<td>On request</td>
<td>2171745</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0m</td>
<td>2171758</td>
<td>2171759</td>
<td>On request</td>
<td>On request</td>
<td>2171701</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0m</td>
<td>2171759</td>
<td>2171760</td>
<td>On request</td>
<td>On request</td>
<td>2171702</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0m</td>
<td>2171761</td>
<td>2171762</td>
<td>On request</td>
<td>On request</td>
<td>2171703</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0m</td>
<td>2171762</td>
<td>2171763</td>
<td>On request</td>
<td>On request</td>
<td>2171704</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photographs and graphics are not to scale and do not represent detailed images of the respective products. Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Other lengths are available upon request.
Data communication systems for ETHERNET technology

**PROFINET®, Cat.5 • Type C - Patch cables for continuous flexing applications**

**ETHERLINE® PN FD Cat.5 Patch cables**

**Info**
- For PROFINET® applications
- Additional variants are available at www.lappgroup.com/assemblyfinder or on request

**Benefits**
- For directly connecting two electric components
- Non-permanent connections allow for easy change of equipment

**Application range**
- For PROFINET® applications type C
- Continuous flexing applications
- Suitable for EtherCAT and EtherNet/IP applications
- Suitable for use in industrial applications
- For indoor use

**Product features**
- Meets the requirements according to Cat.5e and class D
- 2pair: 10/100 Mbit/s for Industrial Ethernet

**Norm references / Approvals**
- The cable is UL/CSA-certified (CMX)

**Product Make-up**
- Braided conductor, 2x2x AWG22/7
- Star quad
- Overall screening with copper braid and plastic-laminated aluminium foil
- Outer sheath made of PUR, 6.5mm in diameter
- Colour: green (based on RAL 6018)

**Technical data**
- Classification
  - ETIM 5.0 Class-ID: EC002599
  - ETIM 5.0 Class-Description: Patch cord copper (twisted pair) industry
- Minimum bending radius
  - Flexing: 8 x outer diameter
  - Fixed installation: 5 x outer diameter
- Protection rating
  - M12: IP 67
  - RJ45: IP 20
- Temperature range
  - Flexing: -20°C to +60°C
  - Fixed installation: -30°C to +70°C
- Coding
  - M12: D-Standard

**Plotography and graphics are not to scale and do not represent detailed images of the respective products.**

**Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.**

Other lengths are available upon request.

For current information see: www.lappgroup.com
Data communication systems for ETHERNET technology

Industrial Ethernet, Cat.6a • RJ45 Connectors

EPIC® DATA RJ45

Product features
- Field assembly Industrial Ethernet connector, RJ45 according to IEC 60603-7-51
- Suitable for 10BASE-T/100BASE-T/1000BASE-T/10GBASE-T
- Housing: zinc die-casting, grey
- Suitable for stranded cores and solid conductors
- Suitable for use in industrial applications

Norm references / Approvals
- RJ45 up to 500 MHz, acc. to IEC 60603-7-51
- UL-listed (E-File E353543)

Technical data
- Protection rating: IP 20
- Ambient temperature (operation): -40°C to +85°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Design</th>
<th>Min. outer diameter (mm)</th>
<th>Max. outer diameter (mm)</th>
<th>Min. Core diameter (mm)</th>
<th>Core diameter</th>
<th>PU</th>
<th>AWG solid</th>
<th>AWG 7-wire</th>
<th>AWG 19-wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>21700605</td>
<td>Straight, latched</td>
<td>5</td>
<td>9</td>
<td>1</td>
<td>1.6</td>
<td>10</td>
<td>24 - 22</td>
<td>27 - 22</td>
<td>22*</td>
</tr>
<tr>
<td>21700651</td>
<td>Straight, screwed</td>
<td>5.5</td>
<td>10</td>
<td>1</td>
<td>1.6</td>
<td>1</td>
<td>24 - 22</td>
<td>27 - 22</td>
<td>22*</td>
</tr>
<tr>
<td>21700638</td>
<td>Angled, screwed</td>
<td>5.5</td>
<td>10</td>
<td>1</td>
<td>1.6</td>
<td>1</td>
<td>24 - 22</td>
<td>27 - 22</td>
<td>22*</td>
</tr>
</tbody>
</table>

colour-coded acc. to EIA/TIA 568A
- 21700600 Straight, latched 5 9 1 1.6 10 24 - 22 27 - 22 22*
- 21700652 Straight, screwed 5.5 10 1 1.6 1 24 - 22 27 - 22 22*
- 21700636 Angled, screwed 5.5 10 1 1.6 1 24 - 22 27 - 22 22*

colour-coded acc. to EIA/TIA 568B
- 21700601 Straight, latched 5 9 1 1.6 10 24 - 22 27 - 22 22*
- 21700653 Straight, screwed 5.5 10 1 1.6 1 24 - 22 27 - 22 22*
- 21700637 Angled, screwed 5.5 10 1 1.6 1 24 - 22 27 - 22 22*

colour-coded acc. to EIA/TIA 568A for small wire diameters
- 21700615 Straight, latched 5 9 0.85 1.1 10 26 - 24 27 - 24 26*
- 21700639 Angled, screwed 5.5 10 0.85 1.1 1 26 - 24 27 - 24 26*

colour-coded acc. to EIA/TIA 568B for small wire diameters
- 21700616 Straight, latched 5 9 0.85 1.1 10 26 - 24 27 - 24 26*
- 21700640 Angled, screwed 5.5 10 0.85 1.1 1 26 - 24 27 - 24 26*

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

An approval is necessary for 19-wire cables by Lapp Group

Approved cables: 2170289 & 2170489 ETHERLINE® Cat.5e FD; CE217489 ETHERLINE® Cat.5 FD BK; 2170488 ETHERLINE® Cat.6 FD

For current information see: www.lappgroup.com
Data communication systems for ETHERNET technology
Industrial Ethernet, Cat.5 / 5e • M12 Field mountable connectors and wall ducts

EPIC® DATA M12D
M12 D-coded connectors

Info

- CAT.5-Performance
- Installation without tools

Product features
- Field assembly Industrial Ethernet connector, M12 D-coded according to IEC 61076-2-101
- Suitable for use in industrial applications
- Robust and vibrations-resistant

Norm references / Approvals
- Data transmission is conform to category Cat.5 acc. to ISO 11801

Technical data

<table>
<thead>
<tr>
<th>Protection rating</th>
<th>IP 67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature (operation)</td>
<td>-25°C to +85°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Min. outer diameter (mm)</th>
<th>Max. outer diameter (mm)</th>
<th>PU</th>
<th>AWG solid</th>
<th>AWG 7-wire</th>
</tr>
</thead>
</table>

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

EPIC® DATA M12X
M12 X-coded connectors

Info

- CAT.6, acc. to ISO/IEC 11801
- Installation without tools

Product features
- Field assembly Industrial Ethernet connector, M12 X-coded according to IEC 61076-2-109
- Qualified for 10 Gigabit/s Ethernet
- Suitable for use in industrial applications
- Robust and vibrations-resistant
- Housing: zinc die-casting, grey

Norm references / Approvals
- Data transmission is conform to category Cat.6acc. to ISO/IEC 11801:2010

Technical data

<table>
<thead>
<tr>
<th>Protection rating</th>
<th>IP 67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature (operation)</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Min. outer diameter (mm)</th>
<th>Max. outer diameter (mm)</th>
<th>Min. Core diameter in mm</th>
<th>Core diameter in mm</th>
<th>PU</th>
<th>AWG solid</th>
<th>AWG 7-wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>21700602</td>
<td>ED-IE-AX-M12X-6A-67-FC</td>
<td>5</td>
<td>9.7</td>
<td>0.85</td>
<td>1.6</td>
<td>1</td>
<td>26-22</td>
<td>26-22</td>
</tr>
<tr>
<td>21700621</td>
<td>ED-IE-AX-M12XF-6-67-FC</td>
<td>5</td>
<td>9.7</td>
<td>0.85</td>
<td>1.6</td>
<td>1</td>
<td>26-22</td>
<td>26-22</td>
</tr>
</tbody>
</table>

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
HITRONIC® fibre optic cables make transmitting large data volumes easy: fault free, bug proof and at almost light speed. Even electromagnetic radiation does not interfere with the transmission. The HITRONIC® range includes the ideal solution for indoor or outdoor use, for demanding conditions, and even for use in power chains.

**Application range**
- Telecommunications and network technology
- Industrial cabling and automation level
- Industrial machinery and plant engineering
- Data transmission under harsh conditions (mining and tunnel construction, oil and gas platforms, wind power plants)
Optical transmission systems

**HITRONIC® POF SIMPLEX CABLE**

Polymer optical fibre as simplex fibre cable version with PUR sheath for fixed or flexible application

---

**Info**
- Suitable for direct connector assembly

---

**Benefits**
- Optical data transmission up to 70m
- Easy to handle
- No interference by external fields
- No grounding problems
- Suitable for direct connector assembly

**Application range**
- For optical signal transmission in industrial applications
- As a link between moving parts
- FD cable version: for flexible applications (power chains)

**Product features**
- Resistant to abrasion, oil, microbes and hydrolysis
- Adhesion-free
- Outer sheath flame-retardant and halogen-free
- FD cable version: 5.000.000 bending cycles

**Product Make-up**
- Polymer Optical Fibre (POF)
- PE buffer tube
- Aramid yarns as strain relief
- PUR outer sheath
- Colour: orange (RAL 2003)

**Technical data**

- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000034
  - ETIM 5.0/6.0 Class-Description: Fibre optic cable

- **Dimensions**
  - Buffered fibre: 2.2 mm
  - Cable: see table

- **Fibre type**
  - POF - P980/1000

- **Standard designation**
  - J-V2Y(ZN)1 1Y

- **Optical fibre type**
  - Core material: PMMA
  - Cladding material: fluoropolymers

- **Permissible bending radius**
  - ≥ 10 × outer diameter

- **Permissible tensile force**
  - Fixed installation: 100 N
  - Short-term: 600 N

- **Temperature range**
  - Operation: -20 °C to +70 °C
  - Installation: -10°C to +50°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Fibre type</th>
<th>Number of fibres</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITRONIC® POF SIMPLEX PE-PUR</td>
<td>28020001</td>
<td>HITRONIC® POF SIMPLEX PE-PUR 980/1000 POF</td>
<td>1</td>
<td>5.5</td>
<td>25</td>
</tr>
<tr>
<td>HITRONIC® POF SIMPLEX FD PE-PUR for draig chain application</td>
<td>28320001</td>
<td>HITRONIC® POF SIMPLEX FD PE-PUR 980/1000 POF</td>
<td>1</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths. Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Optical transmission systems
POF - Polymer Optical Fibre Cable • Two buffered fibres applications (DUPLEX)

HITRONIC® POF DUPLEX CABLE
Polymer optical fibre as duplex fibre cable version with PUR sheath for fixed or flexible application

Benefits
• Optical data transmission up to 70m
• Easy to handle
• No interference by external fields
• No grounding problems
• Suitable for direct connector assembly

Application range
• For optical signal transmission in industrial applications
• FD cable version: for flexible applications (power chains)

Product features
• Outer sheath flame-retardant and halogen-free
• Resistant to abrasion, oil, microbes and hydrolysis
• Adhesion-free
• FD cable version: 5.000.000 bending cycles

Product Make-up
• Polymer Optical Fibre (POF)
• PE buffer tube
• Fibre colour coding: black, orange
• Aramid yarns as strain relief
• PUR outer sheath, orange (RAL 2003)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000034 ETIM 5.0/6.0 Class-Description: Fibre optic cable</td>
</tr>
</tbody>
</table>

Dimensions
Buffered fibre: 2.2 mm
Cable: see table

Core identification code
Black, orange

Fibre type
2 × POF – P980/1000

Standard designation
J-V2Y(ZN)11Y

Optical fibre type
Core material: PMMA
Cladding material: fluoropolymers

Permissible bending radius
≥ 10 × outer diameter

Permissible tensile force
Fixed installation: 100 N (PE-PUR), 130 N (Heavy PE-PUR)
Short-term: 400 N

Temperature range
Operation: -40°C to +7 °C (FD: -20°C to +70°C)
Installation: -10°C to +50°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Fibre type</th>
<th>Number of fibres</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITRONIC® POF DUPLEX PE-PUR 28020002</td>
<td>HITRONIC® POF DUPLEX PE-PUR 980/1000 POF</td>
<td>2</td>
<td>5.5</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>HITRONIC® POF DUPLEX HEAVY PE-PUR 28030002</td>
<td>HITRONIC® POF DUPLEX HEAVY PE-PUR 980/1000 POF</td>
<td>2</td>
<td>8</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>HITRONIC® POF DUPLEX FD PE-PUR for power chain application 28320002</td>
<td>HITRONIC® POF DUPLEX FD PE-PUR 980/1000 POF</td>
<td>2</td>
<td>6</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths. Photographs and graphics are not to scale and do not represent detailed images of the respective products.
**Optical transmission systems**

**POF - Polymer Optical Fibre Cable • Two buffered fibres applications (DUPLEX)**

---

**HITRONIC® POF cables for PROFINET Applications**

Polymer optical fibre as duplex fibre cable version with PUR sheath for PROFINET applications type B or C

---

**Info**

- PROFINET compliant
  - Type B or Type C

---

**Benefits**

- Optical data transmission up to 70m
- Easy to handle
- No interference by external fields
- No grounding problems
- Suitable for direct connector assembly

**Application range**

- For optical signal transmission in industrial applications
- PROFINET / Industrial Ethernet
- At 100 Mbit/s: max 50 m cable length
- PROFINET type B: for fixed laying
- PROFINET type C: for flexible applications (power chains)

**Product Make-up**

- Polymer Optical Fibre (POF)
- PA buffer tube
- Fibre colour coding: black, orange (with arrow printing)
- Aramid yarns as strain relief
- Outer sheath material PUR or PVC (see article description)
- Outer sheath colour: green (RAL 6018)

**Technical data**

- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC000034
  - ETIM 5.0/6.0 Class-Description: Fibre optic cable
- **Dimensions**
  - Buffered fibre: 2.2 mm
  - Cable: see table
- **Core identification code**
  - Black, orange (with arrow printing)
- **Standard designation**
  - J-V4Y(ZN)1Y 2P980/1000
  - J-V4Y(ZN)Y 2P980/1000
  - J-V4Y(ZN)1Y 2P980/1000 flex
  - Optical fibre type
  - Core material: PMMA
  - Cladding material: fluoropolymers
- **Permissible bending radius**
  - ≥ 10 x outer diameter
- **Permissible tensile force**
  - see data sheet
- **Temperature range**
  - Operation: -20 °C to +70 °C
  - Installation: -10 °C to +50°C

---

**Table: Article number - Article designation - Fibre type - Number of fibres - Outer diameter (mm) - Weight (kg/km)**

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Fibre type</th>
<th>Number of fibres</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28051002</td>
<td>HITRONIC® POF DUPLEX PNB PA-PUR</td>
<td>980/1000 POF</td>
<td>2</td>
<td>8</td>
<td>56</td>
</tr>
<tr>
<td>28052002</td>
<td>HITRONIC® POF DUPLEX PNB PA-PVC</td>
<td>980/1000 POF</td>
<td>2</td>
<td>7.8</td>
<td>59</td>
</tr>
<tr>
<td>28351002</td>
<td>HITRONIC® POF DUPLEX FD PNC PA-PUR</td>
<td>980/1000 POF</td>
<td>2</td>
<td>8</td>
<td>55</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

---

For current information see: www.lappgroup.com
Optical transmission systems

PCF - Plastic Cladded Fibre Cable • Two buffered fibres applications (DUPLEX)

HITRONIC® PCF DUPLEX FD cables
Polymer Cladded Fibre as duplex fibre cable version for flexible applications, PUR outer sheath, halogen-free

Benefits
• Designed for use in power chains
• Transmission lengths up to 500 m
• Suitable for direct connector assembly
• Good resistance to oil, petrol, acids and alkanes
• EMC protection

Application range
• For highly flexible applications
• For data transmission in field bus systems, such as PROFIBUS, INTERBUS etc.
• As a link between moving parts
• Industrial environments

Product features
• Possible transmission wavelengths: 650 nm and 850 nm
• Complies with requirements for all BUS systems
• Outer sheath flame-retardant and halogen-free

Product Make-up
• Colour-coded, tight-buffered PCF sub-cable with FRNC sheath
• Sub cable outer diameter: 2.2 mm
• Aramid yarns as strain relief
• PUR outer sheath
• Colour: orange (RAL 2003)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC000034</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Fibre optic cable</td>
</tr>
</tbody>
</table>

Dimensions
Buffered fibre: 0.5 mm
Single cable: 2.2 mm
Cable: 8.8 mm

Core identification code
d, g, e

Fibre type
PCF - K200/230
PCF - Polymer Cladded Fibre

Minimum bending radius
Static: ≥ 15 × outer diameter
Dynamic: ≥ 20 × outer diameter

Standard designation
A/J-V(ZN)H11Y

Optical fibre type
Core material: glass
Cladding material: fluoropolymers

Permissible tensile force
Fixed installation: 800 N
Short-term: 2000 N

Temperature range
Operation: -20 °C to +70 °C
Installation: -10°C to +50°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Fibre type</th>
<th>Number of fibres</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28320702</td>
<td>HITRONIC® PCF DUPLEX FD FRNC-PUR</td>
<td>200/230 PCF</td>
<td>2</td>
<td>8.8</td>
<td>63</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. The cables can also be supplied as pre-terminated fibre optic trunks. Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Optical transmission systems
PCF - Plastic Cladded Fibre Cable • Two buffered fibres applications (DUPLEX)

HITRONIC® PCF cables for PROFINET Applications
Polymer optical fibre as duplex fibre cable version with PCV or PUR sheath for PROFINET applications type B or C

Benefits
- Optical data transmission up to 500 m
- Easy to handle
- No interference by external fields
- No grounding problems
- Suitable for direct connector assembly

Application range
- PCF DUPLEX cables for optical signal transmission in industrial applications
- PROFINET/Industrial Ethernet
- At 100 Mbit/s: max 100 m cable length
- PROFINET type B: for fixed laying
- PROFINET type C: for flexible applications (power chains)

Product features
- Cable version with PVC outer sheath: for standard applications in industrial environments
- Cable version with PUR outer sheath: for high mechanical or chemical stress in industrial environments
- PNB – PROFINET-Type B
- PNC – PROFINET-Type C
- FD – Highly flexible (power chains)

Norm references / Approvals
- 28055702: with c(UL)us certification (OFNG 75°C)

Product Make-up
- Colour-coded, tight-buffered PCF sub-cable with PVC sheath
- Sub cable outer diameter: 2.2 mm
- Aramid yarns as strain relief
- Outer sheath material PUR or PVC (see article description)
- Outer sheath colour: green (RAL 6018)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC000034
  ETIM 5.0/6.0 Class-Description: Fibre optic cable
- Dimensions
  Buffered fibre: 0.5 mm
  Single cable: 2.2 mm
  Cable: see table
- Core identification code
  Black, orange (with arrow printing)
- Fibre type
  PCF – K200/230
  PF – Polymer Cladded Fibre
- Minimum bending radius
  see data sheet
- Standard designation
  J-V(ZN)YY 2K200/230
  J-V(ZN)Y(ZN)11Y 2K200/230 flex
  J-V(ZN)Y(ZN)Y 2K200/230 flex
- Optical fibre type
  Core material: glass
  Cladding material: fluoropolymers
- Permissible tensile force
  see data sheet
- Temperature range
  See data sheet

#### Article number | Article designation | Fibre type | Number of fibres | Outer diameter (mm) | Weight (kg/km) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>28055702</td>
<td>HITRONIC® PCF DUPLEX PNB PVC-PVC A</td>
<td>200/230 PCF</td>
<td>2</td>
<td>7.5</td>
<td>59</td>
</tr>
<tr>
<td>28052702</td>
<td>HITRONIC® PCF DUPLEX PNB PVC-PVC</td>
<td>200/230 PCF</td>
<td>2</td>
<td>7.2</td>
<td>55</td>
</tr>
<tr>
<td>28351702</td>
<td>HITRONIC® PCF DUPLEX FD PNC PVC-PUR</td>
<td>200/230 PCF</td>
<td>2</td>
<td>8.8</td>
<td>71</td>
</tr>
<tr>
<td>28352702</td>
<td>HITRONIC® PCF DUPLEX FD PNC PVC-PVC</td>
<td>200/230 PCF</td>
<td>2</td>
<td>8.8</td>
<td>76</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Lapp Kabel is a member of the PROFIBUS user organisation (PNO)
The cables can also be supplied as pre-terminated fibre optic trunks.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Optical transmission systems
GOF - Glass Optical Fibre • Industrial and special applications

HITRONIC® HRM-FD Cable
flexible deivisible breakout cable designed for use in power chains

Benefits
• Designed for use in power chains
• Suitable for field assembly
• Easy to install due to the compact design, high flexibility, robust sheath and small bending radii
• Zero electromagnetic interference as the cable contains no metal (totally dielectric)

Application range
• For highly flexible industrial applications
• As a link between moving parts
• In vertical installations
• Industrial environments
• For indoor and outdoor use

Product features
• Based on military norm MIL-C-85045
• For use in power chains and moving machinery parts in dry or damp rooms
• Outer sheath flame-retardant and halogen-free
• Mechanically robust

Product Make-up
• 2.0 mm tight-buffered sub-cable with LSZH sheath
• Aramid yarns as strain relief
• Central element
• PUR outer sheath
• Colour: black (RAL 9005)

Technical data
- Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000034
ETIM 5.0/6.0 Class-Description: Fibre optic cable
- Dimensions
sub-cable: 2.0 mm
Cable: see table
- Core identification code
Details see datasheet
- Fibre type
GOF – Glass Optical Fibre
- Standard designation
A/J-V(ZN)H(ZN)1 1Y
- Optical values
see data sheet
- Optical fibre type
Core material: glass
Cladding material: glass
- Permissible bending radius
Static: ≥ 15 × outer diameter
Dynamic: ≥ 20 × outer diameter
- Temperature range
Fixed installation: -40°C to +70°C
Flexible use: -20°C to +60°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Article designation</th>
<th>Fibre type</th>
<th>Number of fibres</th>
<th>Outer diameter (mm)</th>
<th>Weight (kg/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2630004202</td>
<td>HITRONIC® HRM-FD800 2G 50/125 OM4</td>
<td>50/125 OM4</td>
<td>2</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630004204</td>
<td>HITRONIC® HRM-FD1000 4G 50/125 OM4</td>
<td>50/125 OM4</td>
<td>4</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630004208</td>
<td>HITRONIC® HRM-FD1400 8G 50/125 OM4</td>
<td>50/125 OM4</td>
<td>8</td>
<td>10.4</td>
<td>93</td>
</tr>
<tr>
<td>2630004212</td>
<td>HITRONIC® HRM-FD1800 12G 50/125 OM4</td>
<td>50/125 OM4</td>
<td>12</td>
<td>13</td>
<td>98</td>
</tr>
<tr>
<td>2630003202</td>
<td>HITRONIC® HRM-FD800 2G 50/125 OM3</td>
<td>50/125 OM3</td>
<td>2</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630003204</td>
<td>HITRONIC® HRM-FD1000 4G 50/125 OM3</td>
<td>50/125 OM3</td>
<td>4</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630003208</td>
<td>HITRONIC® HRM-FD1400 8G 50/125 OM3</td>
<td>50/125 OM3</td>
<td>8</td>
<td>10.4</td>
<td>93</td>
</tr>
<tr>
<td>2630003212</td>
<td>HITRONIC® HRM-FD1800 12G 50/125 OM3</td>
<td>50/125 OM3</td>
<td>12</td>
<td>13</td>
<td>98</td>
</tr>
<tr>
<td>2630002202</td>
<td>HITRONIC® HRM-FD800 2G 50/125 OM2</td>
<td>50/125 OM2</td>
<td>2</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630002204</td>
<td>HITRONIC® HRM-FD1000 4G 50/125 OM2</td>
<td>50/125 OM2</td>
<td>4</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630002208</td>
<td>HITRONIC® HRM-FD1400 8G 50/125 OM2</td>
<td>50/125 OM2</td>
<td>8</td>
<td>10.4</td>
<td>93</td>
</tr>
<tr>
<td>2630002212</td>
<td>HITRONIC® HRM-FD1800 12G 50/125 OM2</td>
<td>50/125 OM2</td>
<td>12</td>
<td>13</td>
<td>98</td>
</tr>
<tr>
<td>2630001002</td>
<td>HITRONIC® HRM-FD800 2G 62.5/125 OM1</td>
<td>62.5/125 OM1</td>
<td>2</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630001004</td>
<td>HITRONIC® HRM-FD1000 4G 62.5/125 OM1</td>
<td>62.5/125 OM1</td>
<td>4</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630001008</td>
<td>HITRONIC® HRM-FD1400 8G 62.5/125 OM1</td>
<td>62.5/125 OM1</td>
<td>8</td>
<td>10.4</td>
<td>93</td>
</tr>
<tr>
<td>2630001012</td>
<td>HITRONIC® HRM-FD1800 12G 62.5/125 OM1</td>
<td>62.5/125 OM1</td>
<td>12</td>
<td>13</td>
<td>98</td>
</tr>
<tr>
<td>2630000902</td>
<td>HITRONIC® HRM-FD800 2E 9/125 OS2</td>
<td>9 / 125 OS2</td>
<td>2</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630000904</td>
<td>HITRONIC® HRM-FD1000 4E 9/125 OS2</td>
<td>9 / 125 OS2</td>
<td>4</td>
<td>7.8</td>
<td>50</td>
</tr>
<tr>
<td>2630000908</td>
<td>HITRONIC® HRM-FD1400 8E 9/125 OS2</td>
<td>9 / 125 OS2</td>
<td>8</td>
<td>10.4</td>
<td>93</td>
</tr>
<tr>
<td>2630000912</td>
<td>HITRONIC® HRM-FD1800 12E 9/125 OS2</td>
<td>9 / 125 OS2</td>
<td>12</td>
<td>13</td>
<td>98</td>
</tr>
</tbody>
</table>

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
The cables can also be supplied as pre-terminated fibre optic trunks.
Photographs and graphics are not to scale and do not represent detailed images of the respective products.
SILVYN®
Protective cable conduit systems and cable carrier systems

The universal range of SILVYN® protection and guidance systems protect cables effectively against dust, moisture, mechanical, thermal and chemical influences. The versatile SILVYN® CHAIN range of energy supply chains also protects and guides cables in dynamic applications.

Application range
- Industrial machinery and plant engineering
- Automotive industry
- Machine tool manufacture
- Renewable energies
- Wherever cables require additional protection or guidance
Protective cable conduit systems and cable carrier systems

Plastic protective cable conduit systems • Highly flexible with spring steel wire

**SILVYN® FPS**

- **Benefits**
  - Dimensionally stable
  - Crushable and extendable
  - Highly oil and acid-resistant
  - Liquidtight
  - Corrosion-resistant

- **Application range**
  - Mechanical engineering
  - In drag chains (SILVYN® CHAIN)
  - Robot-building
  - Moving applications
  - Indoor applications

- **Product features**
  - Cadmium-free

- **Norm references / Approvals**
  - UL FILENUMBER E308201

- **Product Make-up**
  - PVC-insulated steel spring wire
  - Soft PVC outer sheath

- **Technical data**
  - Classification ETIM 5/6
  - ETIM 5.0/6.0 Class-ID: EC001177
  - ETIM 5.0/6.0 Class-Description: Protective plastic hose

- **Certifications**
  - IEC EN 61386-23

- **Colour delivered**
  - Grey

- **Material**
  - Soft PVC with insulated spring steel wire

- **Temperature range**
  - -25°C to +80°C

---

### Technical data

<table>
<thead>
<tr>
<th>Article number</th>
<th>Nominal size</th>
<th>ID x OD (mm)</th>
<th>Bending radius (mm)</th>
<th>Suitable for SILVYN® USK/UKSK-M</th>
<th>Suitable for SILVYN® USK US-M</th>
<th>Suitable for SILVYN® USK US/LSK-M</th>
<th>Suitable for SILVYN® USK US/LSK EE-K</th>
<th>PU ring (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>61711550</td>
<td>10</td>
<td>7 x 10</td>
<td>8</td>
<td>10 x 1</td>
<td>12 x 1,5</td>
<td>7</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711590</td>
<td>14</td>
<td>10 x 14</td>
<td>10</td>
<td>12 x 1,5</td>
<td>16 x 1,5</td>
<td>9</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711630</td>
<td>17</td>
<td>12.7 x 17</td>
<td>13</td>
<td>16 x 1,5</td>
<td>20 x 1,5</td>
<td>11</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711670</td>
<td>19</td>
<td>14.7 x 19</td>
<td>15</td>
<td>-</td>
<td>-</td>
<td>13,5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711710</td>
<td>21</td>
<td>16 x 21</td>
<td>17</td>
<td>20 x 1,5</td>
<td>25 x 1,5</td>
<td>16</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711730</td>
<td>27</td>
<td>21.6 x 27</td>
<td>20</td>
<td>25 x 1,5</td>
<td>32 x 1,5</td>
<td>21</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711740</td>
<td>36</td>
<td>29 x 36</td>
<td>25</td>
<td>32 x 1,5</td>
<td>40 x 1,5</td>
<td>29</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711830</td>
<td>45</td>
<td>38 x 45</td>
<td>36</td>
<td>40 x 1,5</td>
<td>50 x 1,5</td>
<td>36</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>61711910</td>
<td>56</td>
<td>48 x 56</td>
<td>40</td>
<td>50 x 1,5</td>
<td>63 x 1,5</td>
<td>48</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

**SILVYN® FPS 10M**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>61721690</td>
<td>10</td>
<td>7.0 x 10</td>
<td>8</td>
<td>10 x 1</td>
<td>12 x 1,5</td>
<td>7</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721700</td>
<td>14</td>
<td>10 x 14</td>
<td>10</td>
<td>12 x 1,5</td>
<td>16 x 1,5</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721710</td>
<td>17</td>
<td>12.7 x 17</td>
<td>13</td>
<td>16 x 1,5</td>
<td>20 x 1,5</td>
<td>11</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721720</td>
<td>19</td>
<td>14.7 x 19</td>
<td>15</td>
<td>18 x 1,5</td>
<td>25 x 1,5</td>
<td>13,5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721730</td>
<td>21</td>
<td>16 x 21</td>
<td>17</td>
<td>20 x 1,5</td>
<td>25 x 1,5</td>
<td>16</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721740</td>
<td>27</td>
<td>21.6 x 27</td>
<td>20</td>
<td>25 x 1,5</td>
<td>32 x 1,5</td>
<td>21</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721750</td>
<td>36</td>
<td>29 x 36</td>
<td>25</td>
<td>32 x 1,5</td>
<td>40 x 1,5</td>
<td>29</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721760</td>
<td>45</td>
<td>38 x 45</td>
<td>36</td>
<td>40 x 1,5</td>
<td>50 x 1,5</td>
<td>36</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>61721780</td>
<td>56</td>
<td>48 x 56</td>
<td>40</td>
<td>50 x 1,5</td>
<td>63 x 1,5</td>
<td>48</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Protective cable conduit systems and cable carrier systems

Plastic protective cable conduit systems • Highly flexible with spring steel wire

*SILVYN® FPS-EDU*

**Info**

- High flexible and mechanical protection at the same time

---

**Benefits**

- Protects against hot chips
- High-tensile
- Highly flexible
- Air-tight and impermeable
- Mechanical resistance

**Application range**

- Mechanical engineering
- Plant engineering
- Automation technology

**Technical data**

- **Classification ETIM 5/6**
  - ETIM 5.0/6.0 Class-ID: EC00177
  - ETIM 5.0/6.0 Class-Description: Protective plastic hose

- **Material**
  - Insulated spring steel wire with soft PVC and galvanized steel braid

- **Temperature range**
  - -25°C to +90°C

---

**Product Make-up**

- PVC-insulated steel spring wire
- Soft PVC outer sheath
- Galvanized steel wire braiding

**Note**

- PU = 10m (on request)

---

<table>
<thead>
<tr>
<th>Article number</th>
<th>Nominal size</th>
<th>ID x OD (mm)</th>
<th>Bending radius (mm)</th>
<th>Suitable for SILVYN® MSK-M</th>
<th>Suitable for SILVYN® US-M</th>
<th>Suitable for SILVYN® US</th>
<th>PU ring (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>61802330</td>
<td>14</td>
<td>9 × 14</td>
<td>16</td>
<td>16 × 1,5</td>
<td>16 × 1,5</td>
<td>9</td>
<td>50</td>
</tr>
<tr>
<td>61802331</td>
<td>17</td>
<td>12 × 17</td>
<td>19</td>
<td>20 × 1,5</td>
<td>20 × 1,5</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>61802332</td>
<td>19</td>
<td>14 × 19</td>
<td>22</td>
<td>25 × 1,5</td>
<td>25 × 1,5</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>61802333</td>
<td>21</td>
<td>15 × 21</td>
<td>24</td>
<td>—</td>
<td>20 × 1,5</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>61802334</td>
<td>27</td>
<td>20 × 27</td>
<td>30</td>
<td>32 × 1,5</td>
<td>25 × 1,5</td>
<td>21</td>
<td>50</td>
</tr>
<tr>
<td>61802335</td>
<td>36</td>
<td>28 × 36</td>
<td>40</td>
<td>40 × 1,5</td>
<td>32 × 1,5</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>61802336</td>
<td>45</td>
<td>37 × 45</td>
<td>48</td>
<td>50 × 1,5</td>
<td>40 × 1,5</td>
<td>36</td>
<td>25</td>
</tr>
<tr>
<td>61802337</td>
<td>56</td>
<td>48 × 56</td>
<td>60</td>
<td>63 × 1,5</td>
<td>50 × 1,5</td>
<td>48</td>
<td>25</td>
</tr>
</tbody>
</table>

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems

Plastic protective cable conduit systems • Highly flexible with spring steel wire

SILVYN® FD-PU

Benefits
• Dimensionally stable
• Highly flexible at cold temperatures
• Crushable and extendable
• High resistance to oil, petrol, acids and greases
• Liquidtight

Application range
• For indoor and outdoor use
• Mechanical engineering
• In drag chains (SILVYN® CHAIN)
• Robot-building
• Moving applications

Product features
• Halogen and cadmium-free
• Abrasion and microbe-resistant
• Fire behaviour of outer sheath according to UL 94V-2

Product Make-up
• PVC-insulated steel spring wire
• PUR outer sheath

Note
• PU = 50 m (on request)

Technical data

<table>
<thead>
<tr>
<th>Classification ETIM 5/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETIM 5.0/6.0 Class-ID: EC001 177</td>
</tr>
<tr>
<td>ETIM 5.0/6.0 Class-Description: Protective plastic hose</td>
</tr>
</tbody>
</table>

Certifications

IEC EN 61386-23

Colour delivered
Metallic blue

Material
PUR with PVC-insulated spring steel wire
Fire behaviour according to UL94 V-2

Temperature range
-40°C to +80°C

<table>
<thead>
<tr>
<th>Article number</th>
<th>Nominal size</th>
<th>ID x OD (mm)</th>
<th>Bending radius (mm)</th>
<th>Suitable for SILVYN® USK-M/US-M</th>
<th>Suitable for SILVYN® LKI-M/MSK-M</th>
<th>Suitable for SILVYN® USK/US/LKI/EE-K</th>
<th>PU ring (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>64453660</td>
<td>10</td>
<td>7 x 10</td>
<td>8</td>
<td>10 x 1</td>
<td>12 x 1,5</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>64453670</td>
<td>14</td>
<td>10 x 14</td>
<td>10</td>
<td>12 x 1,5</td>
<td>16 x 1,5</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>64453680</td>
<td>17</td>
<td>12.7 x 17</td>
<td>13</td>
<td>16 x 1,5</td>
<td>20 x 1,5</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>64453690</td>
<td>19</td>
<td>14.7 x 19</td>
<td>15</td>
<td>20 x 1,5</td>
<td>25 x 1,5</td>
<td>13.5</td>
<td>10</td>
</tr>
<tr>
<td>64453700</td>
<td>21</td>
<td>16 x 21</td>
<td>17</td>
<td>20 x 1,5</td>
<td>25 x 1,5</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>64453710</td>
<td>27</td>
<td>21.6 x 27</td>
<td>20</td>
<td>25 x 1,5</td>
<td>32 x 1,5</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>64453720</td>
<td>36</td>
<td>29 x 36</td>
<td>25</td>
<td>32 x 1,5</td>
<td>40 x 1,5</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>64453730</td>
<td>45</td>
<td>38 x 43</td>
<td>36</td>
<td>40 x 1,5</td>
<td>50 x 1,5</td>
<td>36</td>
<td>10</td>
</tr>
<tr>
<td>64453750</td>
<td>56</td>
<td>48 x 56</td>
<td>40</td>
<td>50 x 1,5</td>
<td>63 x 1,5</td>
<td>48</td>
<td>10</td>
</tr>
</tbody>
</table>

Photographs and graphics are not to scale and do not represent detailed images of the respective products.
Protective cable conduit systems and cable carrier systems

Plastic protective cable conduit systems • Plastic tubing PUN

Highly flexible plastic tubing for pneumatic use in cable chains

Benefits
- Very high flexibility
- Standard Outer Diameter (calibrated)
- Smooth inner and outer surface
- Diversity of variants

Application range
- For use with operating medium such as Compressed air and Vacuum
- In drag chains (SILVYN® CHAIN)

Product features
- Operating medium Compressed air in accordance with ISO 8573-1:2010[7:-:-]
- Temperature dependent operating pressure from -0,95 to +10 bar

Technical data
- On request Other sizes, lengths and colours are available upon request
- Material TPE-U (Polyurethane) Fire behaviour according to UL 94 HB
- Temperature range -35 °C to +60 °C

<table>
<thead>
<tr>
<th>Article number</th>
<th>ID x OD (mm)</th>
<th>Bending radius (mm)</th>
<th>Colour</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>61732100</td>
<td>2.1 × 3</td>
<td>9</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732103</td>
<td>2.6 × 4</td>
<td>11</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732106</td>
<td>4 × 6</td>
<td>16</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732124</td>
<td>5.7 × 6</td>
<td>24</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732112</td>
<td>7 × 10</td>
<td>28</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732115</td>
<td>8 × 12</td>
<td>33</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732118</td>
<td>9.8 × 14</td>
<td>45</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732121</td>
<td>11 × 16</td>
<td>45</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>61732102</td>
<td>2.1 × 3</td>
<td>9</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732105</td>
<td>2.6 × 4</td>
<td>11</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732108</td>
<td>4 × 6</td>
<td>16</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732126</td>
<td>5.7 × 6</td>
<td>24</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732114</td>
<td>7 × 10</td>
<td>28</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732117</td>
<td>8 × 12</td>
<td>33</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732120</td>
<td>9.8 × 14</td>
<td>45</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732123</td>
<td>11 × 16</td>
<td>45</td>
<td>black</td>
<td>50</td>
</tr>
<tr>
<td>61732101</td>
<td>2.1 × 3</td>
<td>9</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732104</td>
<td>2.6 × 4</td>
<td>11</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732107</td>
<td>4 × 6</td>
<td>16</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732125</td>
<td>5.7 × 6</td>
<td>24</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732113</td>
<td>7 × 10</td>
<td>28</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732116</td>
<td>8 × 12</td>
<td>33</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732119</td>
<td>9.8 × 14</td>
<td>45</td>
<td>silver</td>
<td>50</td>
</tr>
<tr>
<td>61732122</td>
<td>11 × 16</td>
<td>45</td>
<td>silver</td>
<td>50</td>
</tr>
</tbody>
</table>

* Trade product, no Lapp product
Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems
Parallel corrugated protective cable conduit systems • Various applications

SILVYN® RILL PA 12

Benefits
• Dimensionally stable
• Highly flexible at cold temperatures
• Flame-retardant and self-extinguishing according to UL 94V-2
• Crush-resistant
• Highly flexible

Application range
• Mechanical engineering
• In drag chains (SILVYN® CHAIN)
• Building Automation
• Robot-building
• Outdoor application (in black)

Product features
• Halogen and cadmium-free
• Abrasion-resistant
• High resistance to oil, petrol, acids and other chemicals

Norm references / Approvals
• UL FILENUMBER E308201

Product Make-up
• Fine-profile corrugated polyamide 12 conduit

Note
• UV and weather-resistant in black

Technical data

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Material
PA 12
Silicone-free
Halogen-free
Fire behaviour according to UL 94V-2

Temperature range
-50°C bis +100°C
short-term +150°C

Article number Nominal size ID x OD (mm) Bending radius (mm) Suitable for SILVYN® KLICK-M/90°M Suitable for SILVYN® KLICK PG/90°PG Suitable for SILVYN® KLICK-GPZ-M/GPZ PU (m)

SILVYN® RILL PA 12 grey
61815100 10 6.5 × 10 13 10 × 1,5 7/- 12 × 1,5/7 50
61815110 13 10 × 13 15 12 × 1,5/16 × 1,5 9 16 × 1,5/9 50
61815120 16 12 × 15.8 22 16 × 1,5/20 × 1,5 11 20 × 1,5/11 50
61815180 18 14.3 × 18.5 27 — 13,5 16 25 × 1,5/16 50
61815130 21 16.5 × 21.2 35 20 × 1,5 16 25 × 1,5/16 50
61815140 28 23 × 28.5 45 25 × 1,5 21 32 × 1,5/21 50
61815150 34 29 × 34.5 50 32 × 1,5 29 40 × 1,5/29 50
61815160 42 36 × 42.5 80 40 × 1,5 36 50 × 1,5/36 50
61815170 54 48 × 54.5 100 50 × 1,5 48 63 × 1,5/48 50

SILVYN® RILL PA 12 black
61815105 10 6.5 × 10 13 10 × 1,5 7/- 12 × 1,5/7 50
61815115 13 10 × 13 15 12 × 1,5/16 × 1,5 9 16 × 1,5/9 50
61815125 16 12 × 15.8 22 16 × 1,5/20 × 1,5 11 20 × 1,5/11 50
61815185 18 14.3 × 18.5 27 — 13,5 16 25 × 1,5/16 50
61815135 21 16.5 × 21.2 35 20 × 1,5 16 25 × 1,5/16 50
61815145 28 23 × 28.5 45 25 × 1,5 21 32 × 1,5/21 50
61815155 34 29 × 34.5 50 32 × 1,5 29 40 × 1,5/29 50
61815165 42 36 × 42.5 80 40 × 1,5 36 50 × 1,5/36 50
61815175 54 48 × 54.5 100 50 × 1,5 48 63 × 1,5/48 50

For current information see: www.lappgroup.com
Protective cable conduit systems and cable carrier systems

SILVYN® UI 511

Benefits
- Torsion-resistant and very flexible
- Corrosion-resistant
- For high mechanical stress
- Suitable for outdoor use and direct burial
- High-tensile

Application range
- Offshore applications
- Measuring technology
- Plant engineering
- Steel industry
- Applications with the highest mechanical stresses

Product features
- Stainless steel AISI 304
- Spirally-wound stainless steel protective conduit with interlocked profile (AGRAFF)

Product Make-up
- Spirally-wound stainless steel protective conduit with interlocked profile (AGRAFF)

Technical data
- Classification ETIM 5/6
  ETIM 5.0/6.0 Class-ID: EC00179
  ETIM 5.0/6.0 Class-Description: Protective metallic hose

- Note
  Size 2" not stocked!

- Material
  Stainless steel AISI 304
  DW no. 1.4301

- Protection rating
  IP40

- Temperature range
  -100 °C to +600 °C

---

Article number | Nominal size | ID x OD (mm) | Static/dynamic bending radius | PU (m)
---|---|---|---|---
61799815 | 5/16" | 9.5 × 12.5 | 50/60 | 30
61799816 | 3/8" | 13 × 16 | 65/80 | 30
61799817 | 1/2" | 17 × 21 | 75/100 | 30
61799818 | 3/4" | 22 × 26 | 90/125 | 30
61799819 | 1" | 26 × 30 | 120/160 | 30
61799820 | 1 1/4" | 34 × 39 | 175/220 | 30
61799831 | 1 1/2" | 40.3 × 44.4 | 230/280 | 15
61799822 | 2" | 51.6 × 55.7 | 285/340 | 15

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

For current information see: www.lappgroup.com
## A2 Selection tables

### Cables for use in power chains or robot applications

#### Usage criteria

<table>
<thead>
<tr>
<th>Usage criteria</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Page</strong></td>
<td>107</td>
</tr>
<tr>
<td><strong>Use</strong></td>
<td>ÖLFLEX® SERVO FD 796 P</td>
</tr>
<tr>
<td>For industrial mach. acc. to EN 60204 Part 1/VDE 0113</td>
<td>Yes</td>
</tr>
<tr>
<td>For servo drives, low capacitance</td>
<td>Yes</td>
</tr>
<tr>
<td>For encoders, feedback systems, sensors</td>
<td>Yes</td>
</tr>
<tr>
<td>For outdoor application, flexing</td>
<td>Yes</td>
</tr>
<tr>
<td>For fieldbus systems</td>
<td>Yes</td>
</tr>
<tr>
<td>For video transmission: RGB signal transmission</td>
<td>Yes</td>
</tr>
<tr>
<td>For North America with UL + CSA approval</td>
<td>Yes</td>
</tr>
<tr>
<td>For use in oily environments, enhanced oil resistance</td>
<td>Yes</td>
</tr>
<tr>
<td>For use in areas with drilling fluids acc. to NEK 606</td>
<td>Yes</td>
</tr>
<tr>
<td>For use in areas with bio-oils</td>
<td>Yes</td>
</tr>
<tr>
<td>For torsion in wind turbine generators (see catalogue page)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Temperature range

<table>
<thead>
<tr>
<th>Temperature range</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>105 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>90 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>80 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>70 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>60 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>50 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>40 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>30 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>20 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>10 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>0 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>-10 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>-20 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>-30 °C</td>
<td>Yes</td>
</tr>
<tr>
<td>-40 °C</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Minimum bending radius

<table>
<thead>
<tr>
<th>Minimum bending radius*</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 x D</td>
<td>Yes</td>
</tr>
<tr>
<td>6.5 x D</td>
<td>Yes</td>
</tr>
<tr>
<td>7.5 x D</td>
<td>Yes</td>
</tr>
<tr>
<td>10 x D</td>
<td>Yes</td>
</tr>
<tr>
<td>12.5 x D</td>
<td>Yes</td>
</tr>
<tr>
<td>15 x D</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Installation

<table>
<thead>
<tr>
<th>Installation</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>For chains with low radii</td>
<td>Yes</td>
</tr>
<tr>
<td>For chains with minimal space</td>
<td>Yes</td>
</tr>
<tr>
<td>For lower power/weight ratio in chain</td>
<td>Yes</td>
</tr>
<tr>
<td>For 24-hour operation with high cycle numbers</td>
<td>Yes</td>
</tr>
<tr>
<td>For high acceleration &gt; 10 m/s²</td>
<td>Yes</td>
</tr>
<tr>
<td>For very high acceleration up to 50 m/s²</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Nominal voltage

<table>
<thead>
<tr>
<th>Nominal voltage</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>350 Vss</td>
<td>Yes</td>
</tr>
<tr>
<td>30/300 V AC</td>
<td>Yes</td>
</tr>
<tr>
<td>300/500 V AC</td>
<td>Yes</td>
</tr>
<tr>
<td>600/1000 V AC</td>
<td>Yes</td>
</tr>
<tr>
<td>600 V acc. to UL/CSA</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Design

<table>
<thead>
<tr>
<th>Design</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine wire, VDE class 5, stranded copper conductor</td>
<td>Yes</td>
</tr>
<tr>
<td>Extra-fine wire, VDE class 6, stranded copper conductor</td>
<td>Yes</td>
</tr>
<tr>
<td>Ultra-fine wire, VDE class 6, stranded copper conductor</td>
<td>Yes</td>
</tr>
<tr>
<td>PVC/special PVC core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>Elastomer core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>PE/cellular PE/cellular PE foam skin core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>Polyethylene/polypropylene core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>TPE core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>Special TPE (P4/11) core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>Halogen-free core insulation</td>
<td>Yes</td>
</tr>
<tr>
<td>Number printing</td>
<td>Yes</td>
</tr>
<tr>
<td>VDE colour code</td>
<td>Yes</td>
</tr>
<tr>
<td>DIN 471100 colour code/special colour code</td>
<td>Yes</td>
</tr>
<tr>
<td>Pair screening PiCY/PiMF/STP</td>
<td>Yes</td>
</tr>
<tr>
<td>Overall screening</td>
<td>Yes</td>
</tr>
<tr>
<td>Special PVC sheath</td>
<td>Yes</td>
</tr>
<tr>
<td>PUR sheath, abrasion-resistant, cut-resistant</td>
<td>Yes</td>
</tr>
<tr>
<td>Rubber sheath</td>
<td>Yes</td>
</tr>
<tr>
<td>Special TPE (P4/11) sheath, bio-oil-resistant</td>
<td>Yes</td>
</tr>
<tr>
<td>Halogen-free sheath</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

*for continuous flexing
## Usage criteria

### Cable designation

<table>
<thead>
<tr>
<th>Usage criteria</th>
<th>Cable designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature range</strong></td>
<td></td>
</tr>
<tr>
<td>+105 °C</td>
<td></td>
</tr>
<tr>
<td>+90 °C</td>
<td></td>
</tr>
<tr>
<td>+80 °C</td>
<td></td>
</tr>
<tr>
<td>+75 °C (CMX)</td>
<td></td>
</tr>
<tr>
<td>+70 °C</td>
<td></td>
</tr>
<tr>
<td>+60 °C</td>
<td></td>
</tr>
<tr>
<td>+50 °C</td>
<td></td>
</tr>
<tr>
<td>+5 °C</td>
<td></td>
</tr>
<tr>
<td>-10 °C</td>
<td></td>
</tr>
<tr>
<td>-20 °C</td>
<td></td>
</tr>
<tr>
<td>-30 °C</td>
<td></td>
</tr>
<tr>
<td>-40 °C</td>
<td></td>
</tr>
<tr>
<td>-50 °C</td>
<td></td>
</tr>
<tr>
<td><strong>Minimum bending radius</strong></td>
<td></td>
</tr>
<tr>
<td>5 x D</td>
<td></td>
</tr>
<tr>
<td>6.5 x D</td>
<td></td>
</tr>
<tr>
<td>7.5 x D</td>
<td></td>
</tr>
<tr>
<td>8 x D</td>
<td></td>
</tr>
<tr>
<td>10 x D</td>
<td></td>
</tr>
<tr>
<td>12.5 x D</td>
<td></td>
</tr>
<tr>
<td>15 x D</td>
<td></td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td></td>
</tr>
<tr>
<td>For chains with low radii</td>
<td></td>
</tr>
<tr>
<td>For chains with minimal space</td>
<td></td>
</tr>
<tr>
<td>For lower power/weight ratio in chain</td>
<td></td>
</tr>
<tr>
<td>For 24-hour operation with high cycle numbers</td>
<td></td>
</tr>
<tr>
<td>For very high acceleration up to 50 m/s²</td>
<td></td>
</tr>
<tr>
<td>For travel speeds up to 10 m/s, travel lengths up to 5 m</td>
<td></td>
</tr>
<tr>
<td>For travel speeds up to 5 m/s, travel lengths up to 100 m</td>
<td></td>
</tr>
<tr>
<td><strong>Nominal voltage</strong></td>
<td></td>
</tr>
<tr>
<td>350 Vss</td>
<td></td>
</tr>
<tr>
<td>30/300 V AC</td>
<td></td>
</tr>
<tr>
<td>300/500 V AC</td>
<td></td>
</tr>
<tr>
<td>600/1000 V AC</td>
<td></td>
</tr>
<tr>
<td>600 V acc. to UL/CSA</td>
<td></td>
</tr>
<tr>
<td>1000 V acc. to UL/CSA (internal wiring)</td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
</tr>
<tr>
<td>Fine wire, VDE class 5, stranded copper conductor</td>
<td></td>
</tr>
<tr>
<td>Extra-fine wire, VDE class 6, stranded copper conductor</td>
<td></td>
</tr>
<tr>
<td>PVC/special PVC core insulation</td>
<td></td>
</tr>
<tr>
<td>Elastomer core insulation</td>
<td></td>
</tr>
<tr>
<td>PE/cellular PE/cellular PE foam skin core insulation</td>
<td></td>
</tr>
<tr>
<td>Polyethylene/polypropylene core insulation</td>
<td></td>
</tr>
<tr>
<td>TPE core insulation</td>
<td></td>
</tr>
<tr>
<td>Special TPE (P4/11) core insulation</td>
<td></td>
</tr>
<tr>
<td>Halogen-free core insulation</td>
<td></td>
</tr>
<tr>
<td>Number printing</td>
<td></td>
</tr>
<tr>
<td>VDE colour code</td>
<td></td>
</tr>
<tr>
<td>DIN 47100 colour code/special colour code</td>
<td></td>
</tr>
<tr>
<td>Pair screening PiCY/PiMF/STP</td>
<td></td>
</tr>
<tr>
<td>Overall screening</td>
<td></td>
</tr>
<tr>
<td>Special PVC sheath</td>
<td></td>
</tr>
<tr>
<td>PUR sheath, abrasion-resistant, cut-resistant</td>
<td></td>
</tr>
<tr>
<td>Rubber sheath</td>
<td></td>
</tr>
<tr>
<td>Special TPE (P4/11) sheath, bio-oil-resistant</td>
<td></td>
</tr>
<tr>
<td>Halogen-free sheath</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Possible application</th>
<th>Flexible use</th>
<th>Fixed and flexible use</th>
<th>Fixed installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main application/design</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*for continuous flexing

For current information see: www.lappgroup.com
## A2-1 Selection tables

### Cables for use in power chains – Bending cycles and operation parameters

<table>
<thead>
<tr>
<th>Performance</th>
<th>Travel</th>
<th>Acceleration</th>
<th>Speed</th>
<th>Temperature range</th>
<th>Bending cycles at minimum bending radius/travel distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class/Line</td>
<td>up to m</td>
<td>up to m/s²</td>
<td>Sliding</td>
<td>from °C to °C</td>
<td>(factor x cable diameter)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>up to m/s</td>
<td></td>
<td>&lt;= 10 m</td>
</tr>
</tbody>
</table>

### Cable product

<table>
<thead>
<tr>
<th>Cable product</th>
<th>Core</th>
<th>Infomation</th>
<th>-5 ≤</th>
<th>5 ≤</th>
<th>15 ≤</th>
<th>15 ≤</th>
<th>30 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
<th>10 ≤</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖLFLEX® CHAIN 809 SC Basic</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>12</td>
<td>15</td>
<td>&gt; 15 ≤ 50</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>&gt; 50 ≤ 70</td>
<td>12</td>
<td>14,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CHAIN 809 SC CY Basic</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>12</td>
<td>15</td>
<td>&gt; 15 ≤ 50</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>&gt; 50 ≤ 70</td>
<td>12</td>
<td>14,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CHAIN 809 Basic</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>12</td>
<td>15</td>
<td>&gt; 15 ≤ 50</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>&gt; 50 ≤ 70</td>
<td>12</td>
<td>14,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CHAIN 809 CY Basic</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>12</td>
<td>15</td>
<td>&gt; 15 ≤ 50</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>&gt; 50 ≤ 70</td>
<td>12</td>
<td>14,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CHAIN 819 P Basic</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>12</td>
<td>15</td>
<td>&gt; 15 ≤ 50</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>&gt; 50 ≤ 70</td>
<td>12</td>
<td>14,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CLASSIC FD 810 Core</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CLASSIC FD 810 CP Core</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CLASSIC FD 891 P Core</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CHAIN TM Core</td>
<td>20</td>
<td>20</td>
<td>-5 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CHAIN TM CY Core</td>
<td>20</td>
<td>20</td>
<td>-5 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CLASSIC FD 810 P Core</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖLFLEX® CLASSIC FD 810 CP Core</td>
<td>20</td>
<td>20</td>
<td>0 ≤ 15</td>
<td>9,5</td>
<td>11</td>
<td>10</td>
<td>12,5</td>
<td>9</td>
<td>10</td>
<td>12,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Above listed values, factors and bending cycles are guide values and serve only as non-binding benchmark for assessment of expectable service life. Stated values for travel lengths, acceleration and speed are always meant as maximum values which must not be exhausted in the very same application. We reserve the right for adjustments and modifications of above mentioned values.
<table>
<thead>
<tr>
<th>Performance</th>
<th>Travel</th>
<th>Acceleration</th>
<th>Speed</th>
<th>Temperature range</th>
<th>Bending cycles at minimum bending radius/travel distance (factor x cable diameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class/Line</td>
<td>up to m</td>
<td>up to m/s²</td>
<td>Sliding up to m/s</td>
<td>from °C to °C</td>
<td>2 Mio. &lt; 10 m, 3 Mio. &lt; 10 m, 5 Mio. &lt; 10 m, 7 Mio. &lt; 10 m, 10 Mio. &lt; 10 m</td>
</tr>
<tr>
<td>OLFLEX® CHAIN 90 P</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® CHAIN 90 CP</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® FD 855 P</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® FD 855 CP</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® PETRO FD 865 CP</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® CHAIN 896 P ≥ 16 mm²</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® CHAIN 896 P ≥ 25 mm²</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® ROBUST FD</td>
<td>Extended</td>
<td>100</td>
<td>80</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® ROBUST FD C</td>
<td>Extended</td>
<td>100</td>
<td>80</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® SERVO FD 781 CY ≤ 16 mm²</td>
<td>Core</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® SERVO FD 781 CY ≥ 25 mm²</td>
<td>Core</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® SERVO FD 796 P</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® SERVO FD 796 CP ≤ 16 mm²</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® SERVO FD 796 CP ≥ 25 mm²</td>
<td>Extended</td>
<td>100</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLFLEX® SERVO FD 796 CP</td>
<td>Extended</td>
<td>20</td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Above listed values, factors and bending cycles are guide values and serve only as non-binding benchmark for assessment of expectable service life. Stated values for travel lengths, acceleration and speed are always meant as maximum values which must not be exhausted in the very same application. We reserve the right for adjustments and modifications of above mentioned values.

For current information see: www.lappgroup.com

APPENDIX
The following applies for the use of our products.

The conformity of our products to the relevant European directives and compliance with the provisions contained therein shall be indicated by the CE marking.

Safety

Without exception, our products are tested for application safety in accordance with defined standards and our own regulations, which complement the standards. Relevant legal requirements and safety regulations are also observed. Provided due care and attention is paid, the possibility of product-specific danger to the user may thus reasonably be excluded. Where products are used carelessly or incorrectly, however, considerable danger to persons and the environment may arise. For this reason, our cables must only be processed and/or used responsibly by trained electricians or specialists. This catalogue contains general information for the application of each product. Independent of such information, the application standards DIN VDE 0298 and DIN VDE 0891 for cables will apply. Excerpts from these standards, as well as complementary selection and application tables, design and installation guidelines, are contained in the tables in the appendix to this catalogue. Our machines and installation tools are – where necessary – designed in accordance with the machine guidelines and display the CE identification mark. It must be noted, however, that our machines and installation tools must only be used by trained specialist personnel and for the purpose for which they were designed.

©Copyright by U.I. Lapp GmbH. Reprinting or reproduction of the text or the illustrations may be made only with written approval and with correct indication of source. We reserve the right to make modifications to our products, especially those based on technical improvements or continued development. All illustrations and numerical data etc. are therefore without warranty and are subject to change.

Reach us around the world

...or closer to home. To contact your local LAPP representative:

Please visit www.lappgroup.com/worldwide

Enter the world of LAPP:

Our apps are available from the following stores:

```
[QR code]
```

Our apps are available from the following stores:

```
[QR code]
```

Reach us around the world

©Copyright by U.I. Lapp GmbH. Reprinting or reproduction of the text or the illustrations may be made only with written approval and with correct indication of source. We reserve the right to make modifications to our products, especially those based on technical improvements or continued development. All illustrations and numerical data etc. are therefore without warranty and are subject to change.