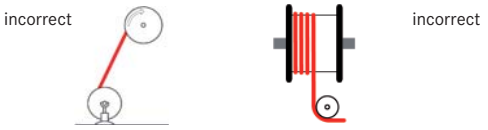
ÖLFLEX® CRANE NSHTÖU, ÖLFLEX® CRANE VS (N)SHTÖU and ÖLFLEX® CRANE PUR

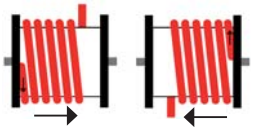
1. The delivery drum must be transported to (or as close as possible to) the installation location. If possible, avoid rolling the drum unnecessarily. If it is not possible to transport the delivery drum to the system, we recommend unreeling the cable from the drum using guide pulleys, together with a drag rope and cable grip.

2. To unreel the cable, the drum must be mounted such that it can rotate, and the cable must only be unreeled from the top. When doing so, the cable must also be stretched out straight, and must not be deflected or pulled over any edges. During the unreeling process, the cable temperature must not be less than + 5 °C (Lapp's recommendation).

3. The entire length of cable to be assembled must be laid out in full prior to installation. Avoid rewinding the cable from the shipping drum onto the unit drum (please see chapter 4). When laying the cable, avoid S-shaped bends or other similar deflections.



4. The cable must be free of twists when wound on the unit drum. Likewise, the cable must not be twisted when connecting and fastening it to the feed-in point. The core layer structure of windable ÖLFLEX® CRANE cables has an "S"-shaped core stranding design. Depending on the position of the cable attachment side or feed-in point on the motor-driven drum, we therefore strongly recommend that you ensure the cable is wound onto the unit drum in the correct direction, as shown in the figure below:



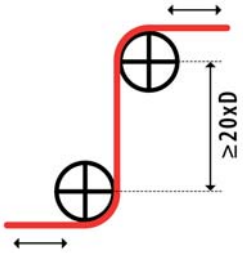
5. If the feed-in point is passed over during operation, use a compensating pulley with an appropriate diameter carrying 1 to 2 cable windings. If the feed-in point is underground below the surface, fit a deflection funnel to the compensating pulley.

6. To prevent the cable being crushed, it is imperative that sufficiently sized clamps or cable support grips are used to secure the cable to the end of the travel length (length ≥ 4 x D). The length of cable left unreeled before the fastening point must be at least 40 x D, however, we also recommend the use of a compensating pulley here.

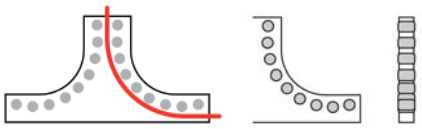
7. If the cable is fully unreeled and the maximum travel distance has been reached, at least 2 cable windings must remain on the unit drum.

8. The inner bending diameter for ÖLFLEX® CRANE NSHTÖU, on cables with an outer diameter of up to 21.5 mm, must not be less than 10 times the cable diameter, and 12.5 times for cables with larger outer diameters. For ÖLFLEX® CRANE VS (N) SHTÖU, the inner bending diameter must generally be at least 15 times the cable diameter. For ÖLFLEX® CRANE PUR, the inner bending diameter must not be less than 15 times the cable diameter. The minimum bending radius can be found on the relevant catalogue page or the product data sheet.

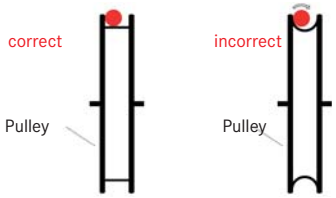
9. Avoid "S"-shaped bends in the cable. However, if the configuration involved renders this impossible, the space between the two deflection pulley axes must be at least 20 times the cable diameter for cables with an outer diameter of up to 21.5 mm, and at least 25 times for cables with larger outer diameters. Definitely, Lapp can not warrant "S"-shaped bending for ÖLFLEX® CRANE NSHTÖU.



10. During installation and operation of the cables (ÖLFLEX® CRANE VS (N)SHTÖU and ÖLFLEX® CRANE PUR), the maximum tensile strength of the cable based on the integrated tensile strain relief elements has to be respected, depending on the cable dimension (please, see the products catalogue pages).For cables with very large outer diameters, we recommend using guide pulleys to minimise friction on the outer sheath when changing direction.



11. The inner contact surface of the pulley must not have a concave shape in order to prevent the cable twisting, which could be caused by extensive contact between the sheath and the inside of the pulley.
To ensure that the cable runs smoothly, the inner width of the guiding groove must be 10 to 15 % larger than the cable outer diameter.



12. The actual current rating (I) in continuous operation also depends on:
- the conductor cross-section (I_{max})
- the ambient temperature (f_1)
- the amount of cable reeled onto the drum (f_2)

In case of theoretical limitation of the calculation of final current rating and hereby, focus on the three above mentioned influencing factors, for better understanding and independently from reality, the maximum permissible load that can be exerted on the installed cable will be based on the following simplified formula: $\mathbf{I = Imax \times f_1 \times f_2}$

13. These cables meet the requirements stipulated by VDE 0250 and VDE 0298-3 (application/installation). Any loads going beyond those specified will reduce the service life of the cables.

Lift/elevator control cables – ÖLFLEX® LIFT, ÖLFLEX® LIFT T, ÖLFLEX® LIFT S

A General information

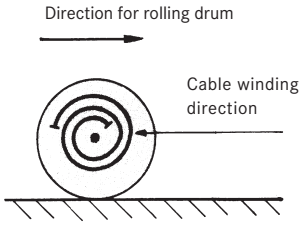
1. The cables must be free of twists when being installed, and this should be done at temperatures of at least + 5 °C. VDE 0298-4/ Lapp table T12, column C applies for the current rating values.

2. The inner bending radius of the cable must not be less than 20 times the outer cable diameter.

3. The maximum suspension length depends on the supporting element in the cable in each case (see the products catalogue pages).

4. The delivery drum must be transported to (or as close as possible to) the installation location. If possible, avoid rolling the drum. If the drum must be rolled, only move the drum in the specified direction (see fig. 1).

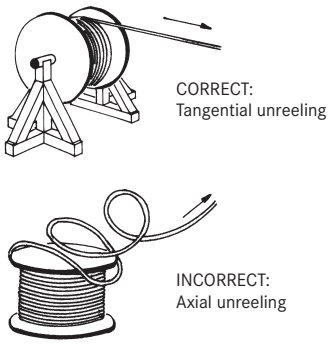
Fig. 1



B Suspending the cables

1. When pulling the cables into the shaft, unreel them tangentially from the drum. Unreeling the cable axially from the drum will result in the cable twisting and will affect the core stranding, which may in turn cause malfunctions (see fig. 2).

Fig. 2



2. To ensure the cable is fitted without twists, allow the cable to briefly hang freely in the shaft. The best way to do this is to pull the control cable into the lift shaft from the bottom of the shaft.

3. The gap between the lift cabin and bottom of the shaft must be sufficiently large, and must be used in full for the cable loop height (see fig. 3).

C General information

1. It is essential that sufficiently large clamps are used to secure the cables (e.g. Lapp cable wedge clamps type EKK or DKK). For suspension lengths greater than 50 m, the supporting element must also be damped separately.

2. The fastening point on the shaft wall must be at least 2 m above the centre of the travel distance (see fig. 3).

3. If the cable does not run smoothly, i.e. if the cable leaves the max. gradient line during operation, rotate the control cable slightly at one of the fastening points until the cable runs smoothly again.

4. If several control cables need to be installed for the lift unit, for technical reasons we recommend suspending the individual cables such that the height of the various loops differs by approx. 15 cm (stepped suspension).

Fig. 3