LAPP GROUP

Appendix

Selection Table **T4**

T4: Assembly Guidelines

ÖLFLEX®

UNITRONIC®

ETHERLINE®

HITRONIC®

EPIC®

SKINTOP®

SILVYN®

FLEXIMARK®

ACCESSORIES

APPENDIX

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

1. The delivery drum should be transported as close as possible to the installation site. It should be also avoided to roll the drum needlessly over longer distances. If the drum can't be mounted closely enough on the plant or equipment it is necessary to unreel the cable with the aid of idler pulleys by using a drag rope and a cable holding sleeve.

2. During unreeling process the cable may only pulled off straight from the top of pivot-mounted revolving drums. High tensile forces must be avoided and also the cable may not deflected or dragged over sharp edges. The cable temperature may not be below +5 °C during this procedure (normative reference to VDE 0298).

3. Before cable assembling the the whole cable installation length must be completely laid-out and stretched. It is very important not to rewind the cable directly from the shipping drum on the equipment drum. (see also chapter 4). When the cable is in laid position S-bends or other deflections must be avoided.

incorrect   incorrect
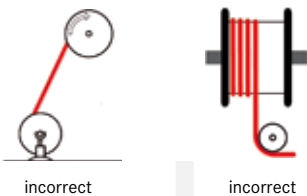
4. The cable must be reeled on the reeling drum without any twists. It is also very important to avoid torsion during connection and fastening to the infeed. The core layer design of reelable ÖLFLEX® CRANE cables is manufactured with a S-stranding direction of the cores. Depending on the position of the cable infeed resp. junction at the winding reel body it is highly recommended to observe the correct cable winding direction on the reeling drum as displayed on the illustration below:
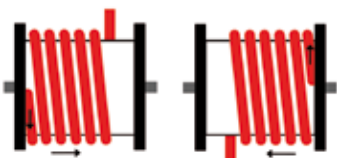

5. If the infeed point is passed over during operation it will be necessary to use a compensating pulley of appropriate diameter carrying 1 – 2 cable windings. If the infeed is underground below the surface it will be necessary to provide a diverting funnel above the compensating pulley.

6. It is essential to use sufficiently proportioned clamps or cable holding sleeves (length ≥ 4 x D) for fastening the cable at the end of the travel length in order to prevent crushing. The length of cable left unreeled before the fastening point must be at least 40 x D but it is advisable to use also here a compensating pulley.

7. At least 2 cable windings must remain on the equipment drum when the cable has been completely run out by reaching the maximum travel distance.

8. For ÖLFLEX® CRANE NSHTÖU cables with an outside diameter of up to 21.5 mm the inner bending diameter should not be less then 10 times and above that figure 12.5 times the cable diameter.
With ÖLFLEX® CRANE VS (N)SHTÖU the inner bending diameter must generally be at least 15 times the cable diameter. With ÖLFLEX® CRANE PUR the inner bending diameter should not be less than 15 times the cable diameter. The minimum bending radius is specified on the corresponding catalogue page resp. in the product data sheet.

9. S-bends in the cable must be avoided. However if this proves impossible in the case of cables with an outside diameter of up to 21.5 mm the center spacing of the two idlers must be at least 20 times and for those above 21.5 mm at least 25 times the cable diameter.
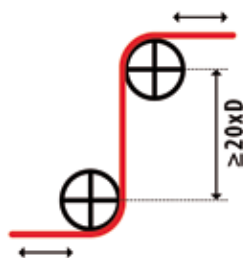

10. The permissible reeling speed may be up to v = 2 m/sec at an acceleration of up to a = 0.4 m/sec².

11. The static continuous tension load should not exceed 15 N/mm² of the total copper cross-section and the dynamic peak tensile force may not exceed 25 N/mm². For cables with very thick outer diameters it is recommended to use guide rollers to reduce high friction of the cable jacket during directional change.
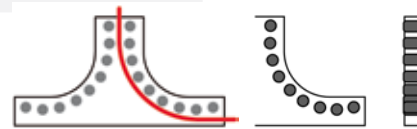
Using sheaves the inner contact face may not have a concave shape to avoid cable twisting which can be caused due to permanent extensive jacket contact with the inner sheave surface. To ensure correct cable running the inner width of the guiding groove must be 10 – 15% larger than the outer diameter of the cable.

Sheave   Sheave

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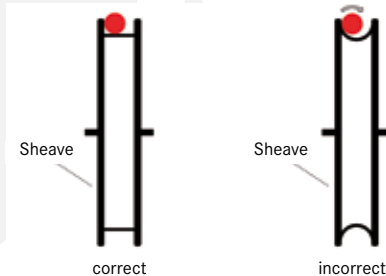
12. The actual current rating (I) in continuous operation depends on
    - the conductor cross-section (I_{max})
    - the ambient temperature (f_1)
    - the amount of cable reeled on the drum (f_2)

    The maximum permissible strain imposed on the installed cable is obtained from the following formula:

    $$I = I_{max} \times f_1 \times f_2$$

13. The cables fulfil the requirements of VDE 0250. Further stress will limit the service life of the cable.