

Guidelines for the laying of cables in cable chains

The laying of cables in cable chains has to be done carefully. In general the following points have to be considered:

- It is recommended to lay the cables separately side by side. In case that cables with different diameters are laid on top of each other or side by side, we recommend the use of separators. For big and heavy cables (for example 4 x 35 mm²) multi core cables are not suitable for many applications and single cores are recommended.

- The cables should be movable in the track. There must be at least 10% - 20% of the cable diameter as free space between the cables and the internal dimensions of the cable chain for safety reasons.

- Please observe that the cables pass the bend radius without being forced. In case of several cable layers, the cables need a corresponding clearance among each other in the bend so that relative movements of the cables among each other and in the chain are possible. In principle the cables must be able to move freely lengthwise at any time and there shall be no tensile force on the cable in the radius. After a short operating time it is recommended to control in regular intervals the position of the cable - particular with long travel paths (control must be executed in push and pull direction). Furthermore, it has to be paid attention to an efficient installation and aspects of wear.

- A torsion-free laying of the cables in the cable chain has to be observed (non-rotational). Therefore, the cables have to be unwound from reels before being installed. (Do not lift off the cables in loops). The ideal case is to take the cable directly from the drum. The cable imprint can't be used for a torsion free ad-

justment of the cable, as the imprint runs slightly helical around the cable due to production reasons.

- The weight arrangement in the cable chain or in the links has to be done symmetrically. Heavy cables have to be laid towards the outside of the cable chain and the smaller ones in the middle. After the rupture of the chain, all cables have to be exchanged due to excessive elongation.

- All cables have to be strain-relieved at the fixed point and at the driver, at least at the movable end of the chain. For use in long chains (sliding application), please contact our staff as there are no general regulations. It has to be observed with clamping that there is only large-surface pressure on the outer jacket. Careful clamping avoids any squeezing of the conductors and at the same time any displacement of the cable. It has to be avoided to move the cable up to the fixing point. The distance between the final point of the flexion to the fixing point should be as large as possible (10 - 20 x cable diameter are taken as relaxation zone).

- In general only cable chain cables should be used. The allowed bending radius of SAB Bröckskes cables has to be strictly observed. The information on the minimum bending radius for the cables are based on the application at normal temperatures (approx. 20 °C). Under circumstances other bending radii can be recommended. The choice of a bigger radius as the minimum radius will have a positive effect on the service life.