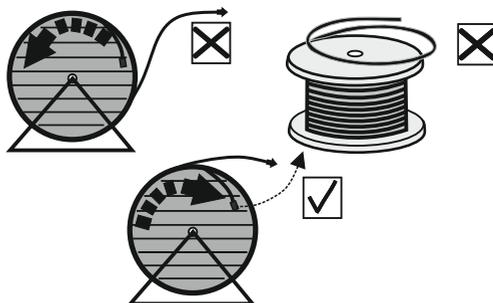


Guidelines regarding cable installation in drag chains

Flexible cables intended for use in control and protective devices, suitable for building control circuits as well as supplying electricity should be installed in drag chains with remarkable precision and due diligence. It is advisable to follow all the guidelines included in this manual in order to ensure maximum performance and operational durability.

1. Correct cable unreeling

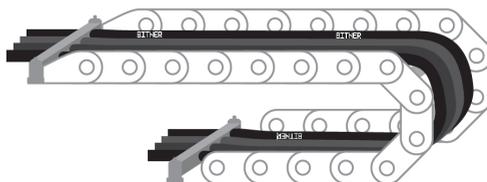
Correct cable unreeling aims at eliminating possible cable twists during installation in a drag tray. Do not unreel the cable from drums or coils that are placed in reverse position. It is advisable to unreel the cable that will be used for installation directly from the drum or the coil.



2. The choice of drag tray

Drag trays should be selected in accordance with anticipated cable operating conditions.

Note: it is recommended not to use multi-core cables with 25 conductors or more. In such a case it is advisable to split the required number of conductors over several cables.

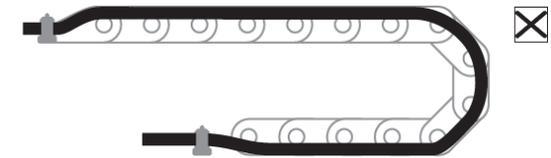
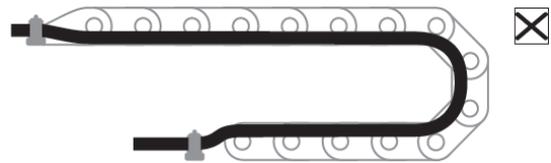
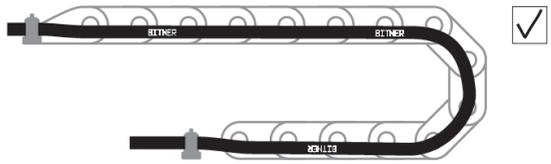


Guidelines regarding cable installation in drag chains

3. Arrangement of the cables in a drag tray

The cable needs to be cut to appropriate length in order to ensure correct installation and strain relief in the tray. Cables should be installed loosely next to one another in separate chain zones or with the use of separators.

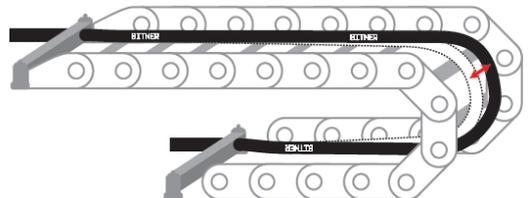
Note: please make sure that cables are installed in a position that does not allow any cable twists and that they have free space in the drag tray. Free space should equal at least 10% of the cable outer diameter. If cables having different outer diameters are installed together, it is mandatory to use special separators or install the cables in different tray zones. If the drag tray and installed cables are put in a vertical position, more free space is necessary as cables will get extended while working in a chain. After several cycles it is advisable to check and adjust cable lengths if necessary. This can be done periodically during exploitation (if required).



4. Cables in a bending part of the drag tray

Cables need to be installed in a way that would allow free movement in a bending part of a drag tray. It will ensure maximum operational durability and limit the possibility of wear and tear.

Note: it needs to be checked whether the cables are installed properly with required free space, no twists and are distributed over the tray in a correct manner.



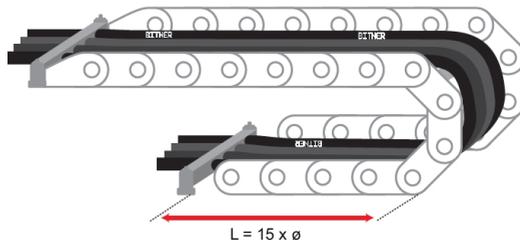
There must be no cable tensile forces over the entire drag chain.

Guidelines regarding cable installation in drag chains

5. Cable fastening

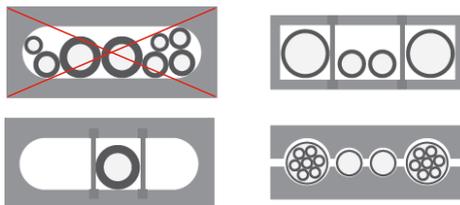
Cables must be fixed at both ends of the drag tray. They can't be fastened in the bending part of a drag tray. The distance between the fastening place and the bending tray part should be as long as possible (minimum distance is 15 x cable outer diameter).

Note: do not fasten the cable in the bending part of the drag tray.



6. Proper cables distribution in a drag tray

In order to ensure proper drag chain operation and maximize its operational durability, it is advisable to spread the cables evenly on the entire drag tray. Heavier cables should be installed on the edges and the lighter ones in the middle of the drag tray.



Note: incorrect distribution or cables fastening can result in unwanted cable movement against each other that can cause their blocking in the tray, deformation of cable assembly, insulation or core damage. Moreover, it can shift the centre of gravity of the installed cables what can in turn change operating path and cause mechanical damage of the drag tray.

