USER MANUAL
STEEL CABLE

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User manual steel cable:

A steel cable is being used for lifting of loads corresponding the technical data and conditions of use.

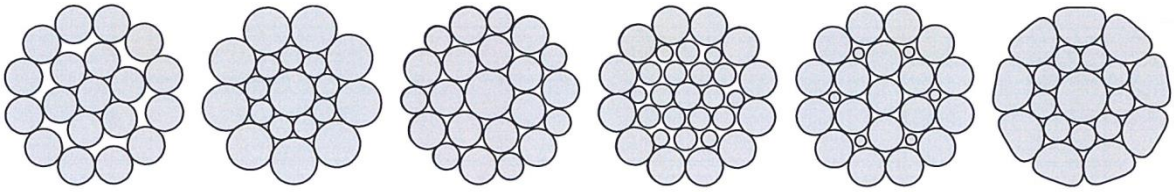
The chosen steel cable needs to have the right breaking strength. The cable also needs to be suitable for the intended application. Different cable constructions have very diverged characteristics.

Steel cables can be used by temperatures of -40°C untill +100°C without any form of reduction. Temperatures outside this range needs to be consulted.

Steel cables are build out of spiral shaped stranded or braided strands round a steel core. The strands are build out of - round a strand core stranded – steel wires. The most important characteristics of a cable construction are determined by number, form and dimensions of the separate steel wires as well as the construction of the cable core.

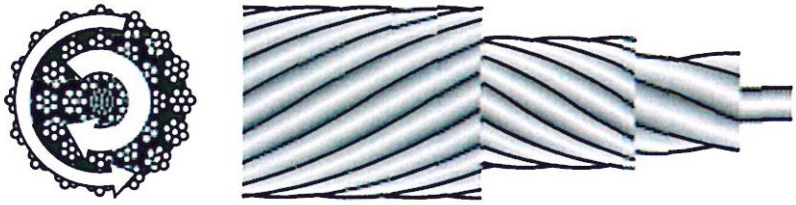
The cable core forms the heart of the cable and states in high extent the cable characteristics. Steel cores and with plastic casted cores generally improve the stability of the cable construction. By choosing the suitable cable core it is possible to avoid damages as a result of high radial forces , for example by multi-layer coiled cables.

Cable strands consist of one or more thread layers which are stranded spiral shaped round a core. That core can consist of one or more steel wires (=steel core), but also out of fibres (=rope core). The strand structure determine in high extent the technical qualities of the cable structure.



Standard construction | Seale-construction | Warrington-construction | Warrington/Seale-construction | Fill wire construction | Compressed

The cable core and the strands are constructed to form the finished cable. A distinction is made between one- or multy layers steel cables. One layer steel cables are usually 6- or 8-strands cable constructions.



Multy layer strandcables are usually poor or free turning constructions, for example 19x7, 35x7.

The construction with multy strandlayers makes it possible to manufacture cables which have a very low turning moment on a certain load range because the torque of the different strand layers act against each other.

The suitable type of lay and lay direction depent on the way the cable drive is constructed. Mostly on one and the same installation, right and left layered cables are being used to remove the torsion between one layer cable constructions. In a cable drive exclusively cables with the same type of lay and lay direction may be combined. Here are the conventional type of layers and lay directions:

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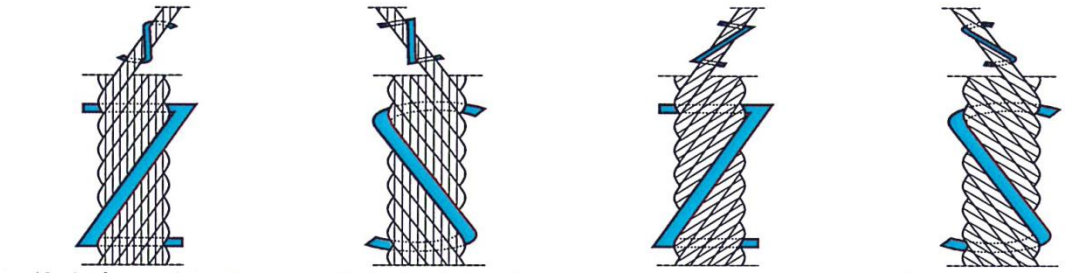


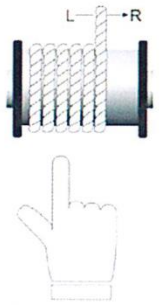
Righ hand ordinary lay (sZ) Left hand ordinary lay (zS) Right hand langs lay (zZ) Left hand langs lay (sS)

Small letters are the lay direction of the wire in the strand.

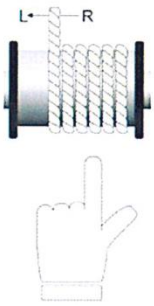
Big letters are the lay direction of the strand.

Choice of the right lay direction

Cable runs over the upper side of the cable winch

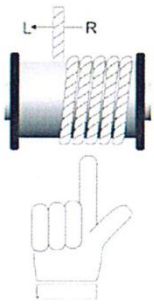


Toprunning and fixed point
left = right hand cable lay

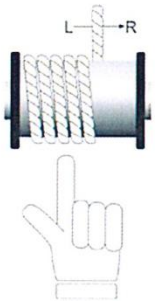


Toprunning and fixed point
right = left hand cable lay

Cable runs over the under side of the cable winch



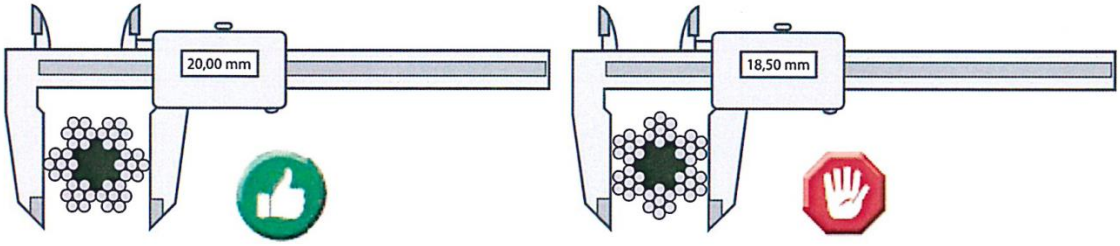
Running under and fixed point
left = right hand cable lay



Running under and fixed point
right = left hand cable lay

Cables must be stored in a need, well ventilated, dry and protected space. Steel cables must be stored by room temperature. By prolonged storage cables must be checked regular on corrosion and if necessary been protected by lubrication. Mark the steel cables to prevent exchange.

Check before use the cable diameter as indicated on the figure below and consider if the end connections are free of visible defects. Check all technical data on the basis of the markings and the corresponding certificates.



Protect the steel cable against turn outs before cutting it. Multi lay steel cable constructions or parallel stranded cables must at least been tied at two places on both sides of the cutting point.

Avoid damaged and twists during unwinding.

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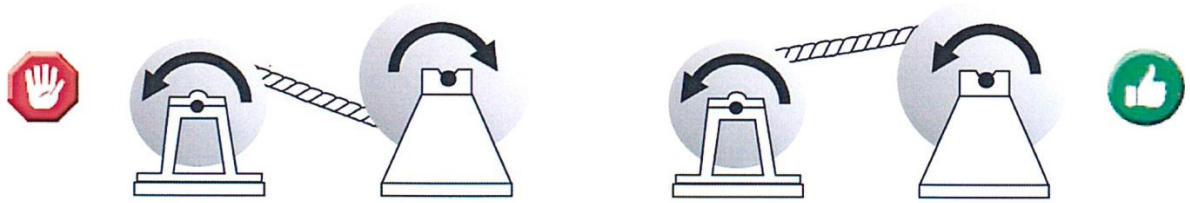
We advice to use cable pull stockings with flexible connection to avoid the torsion forces of the old cable been transported on to the new steel cable. Take care for a safe and steady connection!.

Avoid counter bending when you unreel the steel cable from the reel. By up wind of the cable drum the cables must be sufficiently pre-stressed to guarantee a good winding and safe operation of the cable driving.

Steel cables must be connected exclusively by qualified persons. Check if the steel cables are connected correctly and if they are in good conditions before using them again.

Let new steel cables run in under small partial load.

Drum Reel Drum Reel

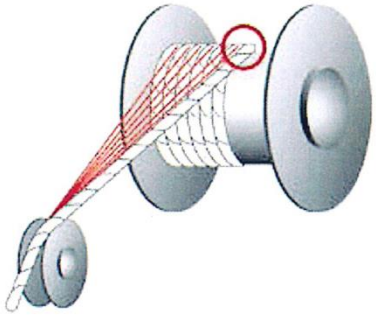


By steel cables the strap hook can have increased wear or load as consequence. By wrapping the cable around a smooth drum the strap hook must be between 0.5° and 2.5° . By a grooved drum the strap hook may lay between 0.5° and 4° . If the cable is damaged by the next laying cable on the reel, operational life can be extended by using compressed cable constructions, lang slay cables.

On cable pulley's the strap hook may never be more than 2.5°. By twist free or parallel stranded cable constructions the strap hook may not be more than 1.5°.

Make sure that the running steel cable cannot slip off the sheave - or flange drum.

By steel cables in use you must especially check the strap hook on which the cable comes into the installation.



The design and the situation of the grooves in cablesheaves or –drums are of the utmost importance for the lifetime of the cable. The sheave grooves must support the cable over 1/3 of the circumference.

The running steel cables must be regularly inspected and greased during use.

Steel cables must be visually inspected once a year.

Excessive damaged, corroded or worn steel wires may not be used.

There should be no kinks, etc. in the steel cable.

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Hands and other body parts must be hold on a distance of the cable to prevent injury when the slack cable is being pulled tight.

The on the cable indicated WLL must never be exceeded.

You must always wear safety gloves because steel cables can have yarns which stick out.