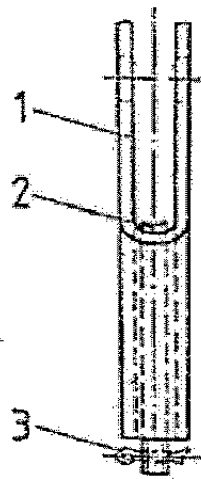
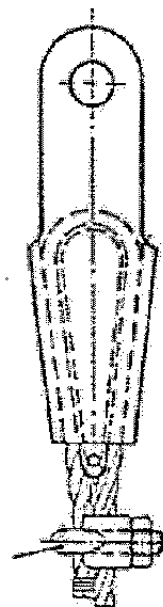


Manual for the use of rope sockets for elevators according to / similar to EN 13411-7

Side view
(shown as delivered)



Front view
(shown as assembled)



Wire rope clip acc. to DIN 1142

Scope:

Rope sockets according to / similar to DIN EN 13411-7 are only to be used for ropes, which are calculated according to the Regulation for Elevators (Elevator Regulation – AufV) and the technical rules (TRA). They are not to be used for wire ropes with a nominal tensile strength of more than 1770 N/mm².

The capacity of a rope end fixing is dependant on the used rope and can therefore only be identified with the used rope.

When the rope end fixing is exposed to high temperatures (fire, etc.) all parts of the rope end fixing have to be replaced with new parts.

Assembly:

1. The correctness of the marking including the nominal size or the range of nominal sizes of housing, wedge and pin has to be checked. Before the assembly housing and wedge have to be examined in order to ensure that these are free of defects which could influence the operability of the assembly.
2. It is important that only a wedge and a housing with the correct measurements as well as the correct strength are used for steel wire ropes. In any other case a drawing of the rope within the rope socket or a failure of the wire rope or the rope socket could occur. Changes of the housing or the wedge are forbidden in any case.
3. Housing and wedge of different manufacturers should not be combined, even if they are meant for the same size of rope. Parts of different manufacturers should not be used together. While assembling it should always be checked whether the suppliers' marks are corresponding with each other and whether the wedge (together with the rope) fit into the housing.

A wedge too large or a wedge with a wrong wedge angle will not fit deep enough into the housing to build a safe end connection. A wedge too small will go too deep into the housing and the too high local stress can lead to a rupture and breaking of the housing and to a drawing of the wedge.

Housing, wedge and pin should be assembled during transport or storage in order to avoid the danger of a confusion of housing, pin and wedge of different sizes or different manufacturers.

4. If a rope should be changed within a rope suspension and should the rope socket has to be replaced it can be only reached by shortening the rope and by bringing it into a new position within the housing. No part of a flattened and/or damaged rope is allowed to be in the area of the bearing part of the rope or within the clamping area between the side of the housing and the wedge.
5. The rope has to be assembled in a manner that the bearing part cannot be buckled where it leaves the housing, but directs to the course of the fixation point of the housing. Defected assemblies lead to an early malfunction of the rope.
6. When the suspension is made, the dead end of the rope has to be long enough to ensure the securing acc. to figure 1.
7. When a rope suspension has been made or replaced it is important that wedge and rope are located correctly within the housing before the assembly gets into use. In any other case the rope could be drawn within the housing or the wedge could derail from the housing, especially when the rope is new.
8. The wedge should be hammered home with a wooden packer, so that the rope end connection and rope are not damaged. The wedge has to be located correctly before the assembly is put into service.
9. Special care is necessary when tension may be completely removed from the rope and where a loosening of wedge becomes possible.
10. The pin has to be secured in a way that it cannot move from its position during operation.
11. The rope end connections have to be secured against twisting.

Check during operation:

1. Rope suspensions have always be checked when inspecting the ropes.
2. Attention has to be directed to:
 - a. Rope damages, i.e. broken wires or deforming of the rope located where it leaves the housing.
 - b. Condition of the rope socket housing, i.e. cracks, especially when the wedge is visibly prominent. The plates of the housing have to be checked for possible deformations, cracks or other defects.
 - c. The safe fit and a tight fitting of the wedge
 - d. The condition of the pin including thread (if the occur) and the existence of a split-pin in the right and secured position.
3. Housing and wedge as well as the rope within the rope socket have always to be inspected when the rope socket is disassembled. The complete rope end connection has to be replaced if wedge and housing are defected.

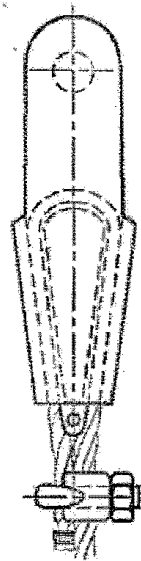


Figure 1: Method of operation for the dead end of the rope

Remark: The distance of the clamp to the next located part of the housing should not be larger than 40% of the total length of the wedge in order to avoid a deformation of the rope (if the distance is to small) or to avoid that the wedge falls from the housing (if the rope is loosened or the distance is to large).