

# Technical information – Sirius

**Mounting instruction**  
**Maintenance instruction**

**DIN EN 1176-1 / -11**  
**DIN EN 1176-1**



[tuev-sued.de/ps-zert](http://tuev-sued.de/ps-zert)

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**Figure 1- Symbolic illustration of Sirius**

**If you have any further questions do not hesitate to contact us:**

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## 1 Mounting instruction

### 1.1 General Information and specs

The work described must be carried out by qualified personnel.

The framework unit is fixed on a galvanised square tubular frame. Concreting is not necessary. It is easy to change the location without the bases having to be removed or remaining in the soil.

#### Dimensions

Equipment space	Ø 5.19 m
Fall space	1.90 m
Minimum space	Ø 8.66 m
Height	3.48 m

#### Age range

From 6 years of age

#### Numbers of users

42 children

#### Maximum free fall height

2.78 m

### 1.2 Ground properties

We refer to EN 1176-1 with respect to the ground conditions in the playing area. Sand, wood chippings, gravel and synthetic fall protector with HIC test are accordingly permitted. We recommend a 400 mm thick bed of gravel (grit size 2 – 8 mm) or a sand filling (grain size 0.2 – 2 mm). When applying a synthetic fall protector it must be guaranteed that all positions relevant for maintenance (refer to the maintenance instructions on **Page 10**) be accessible at all times. If necessary consult smb.

**Fall protection has to be provided within the entire safety area, including the area within the unit (minimal space Ø 8.20 m).**

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### 1.3 Mounting tools:

#### Supplied tools:

1 piece	size 32 special socket spanner with angled extension
1 piece	size 32 socket spanner with extension
1 piece	size 30 socket spanner
1 piece	size 24 socket spanner
1 piece	hexacon socket screw kea size 10 with extension
1 piece	rope pulley

#### tools additionally required:

2 pieces	spanners size 24
1 pieces	spanner size 30
1 Stück	double ladder approx. 2.5 m long

#### Recommendation:

1 piece	ratchet with attachment 32 (normal assembly tool)
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### 1.4 Mounting

#### Assembly of the anchor frame

With the help of the 12 provided screws M16 x 85 mm and nuts, screw down the galvanized square tubular frame with the plug-in system as shown in **Figure 2**. This frame must be placed in the soil at a depth of 470 mm below the play level and must be level and square. This framework ensures that the frame tubes and the hollow balls can be screwed in correctly.

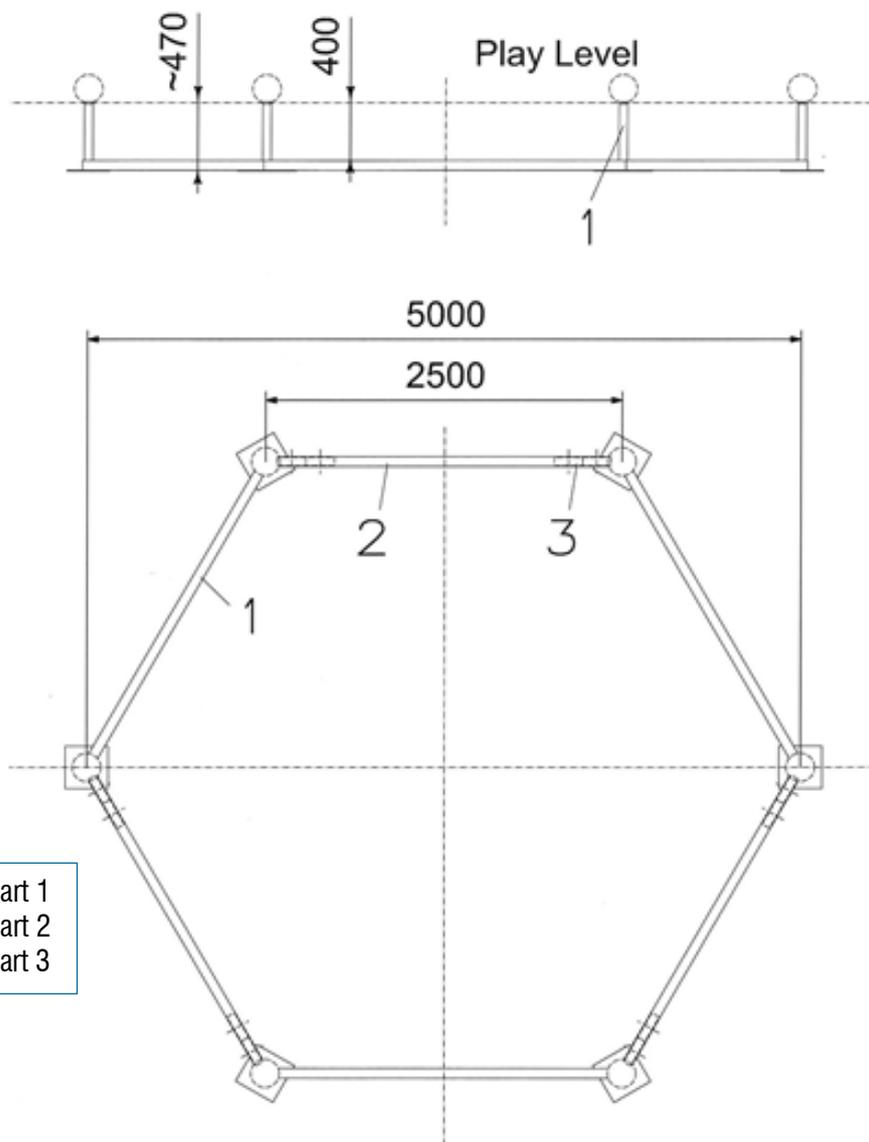
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3x Plug-in-frame	part 1
3x Plug-in-frame	part 2
6x Connecting tube	part 3

Figure 2

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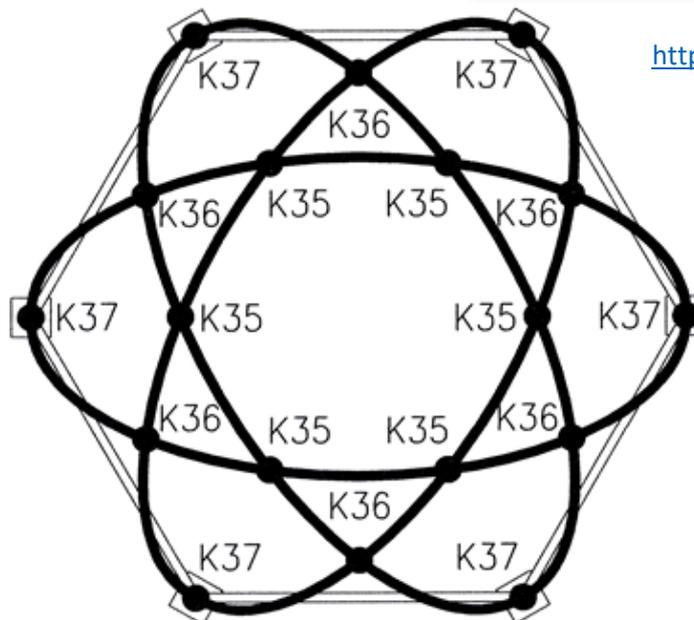
**Assembly of the framework unit**  
**Views of the equipment:**

Produktvideo: Montage  
Product video: Assembly

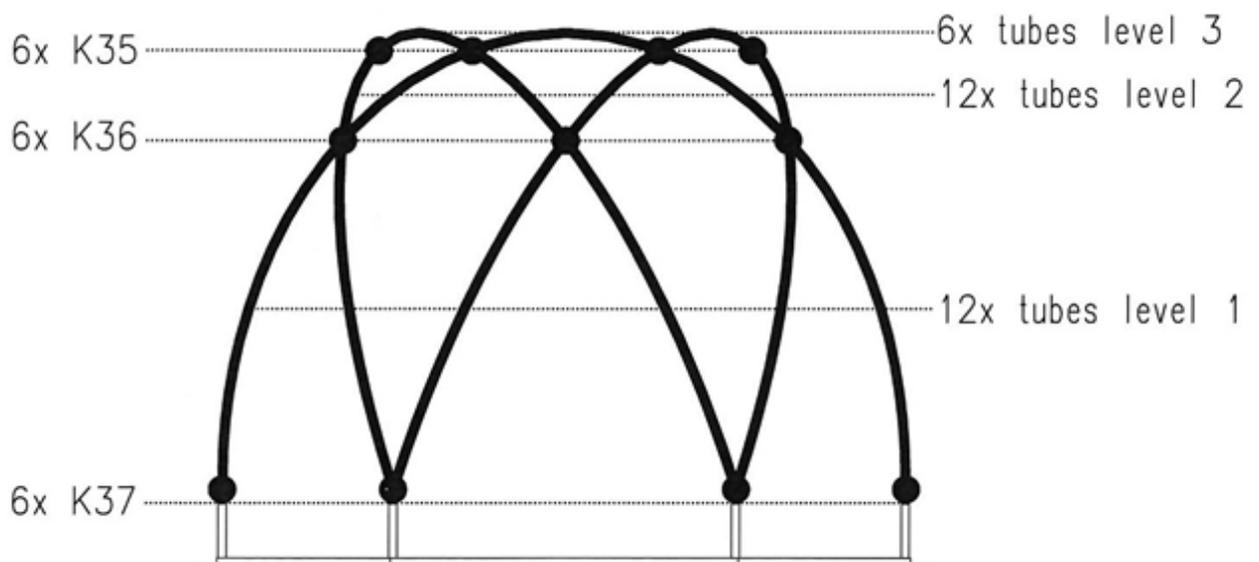


YouTube

<https://youtu.be/dBKnu2UiGw>



**Figure 3 – top view of framework unit**



**Figure 4 – side view of framework unit**

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### Screwing together the unit

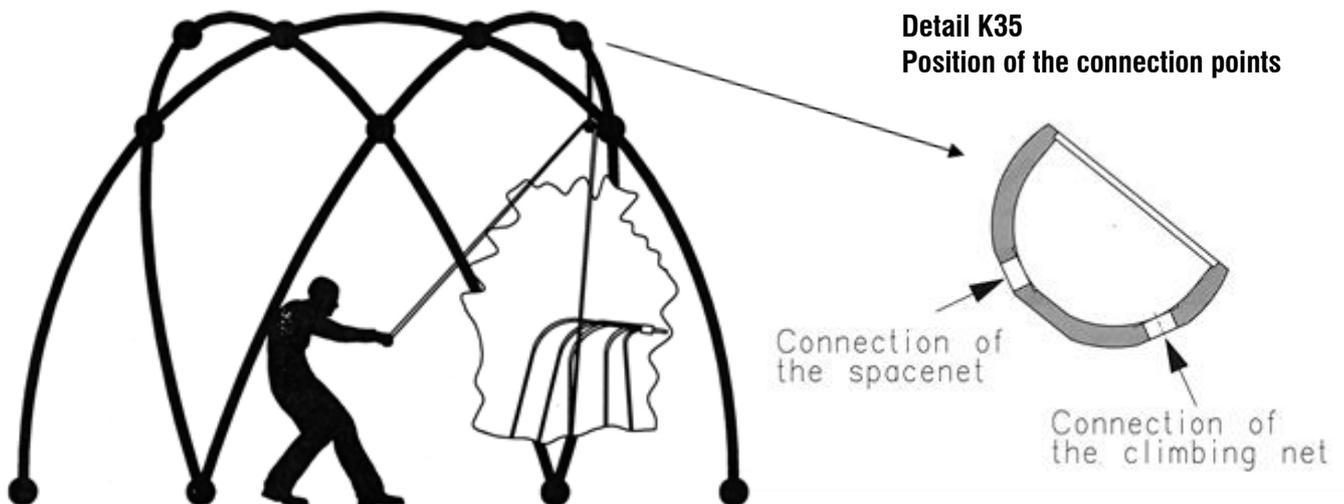
An approx. 2.5 m long double ladder will be required for assembly. The arrangement of the frame tubes and ball joints is shown in **Figure 3** and **Figure 4**. The reference number printed on the joints (**K35 to K37**) always points to the top of the frame.

The tubes of the frame work unit are marked according to their arrangement in the structure itself (tube level 1, 2, etc.). In addition to that, one side of the tube is marked with the hollow ball name that the tube goes with. As a first step, the screw connections (nut, screw M20, SW 32 and locking ring) are to be tightened hand-tight. The tubes might have to be adjusted, with due regard to a seamless fitting of the hollow balls on the tubes.

If the frame has been assembled completely, make sure to pull all nuts **as tight as possible with the help of the extended socket spanner**.

### Space net

#### Unpacking the space net:



**Figure 5**

As shown in **Figure 5**, the space net is to be taken until it is vertically under hollow ball **K35**. The supplied pulley is to be secured on the K35 hollow ball as shown in the **pulley setup in figure 5**. The space net can be hoisted out of the crate using the attached rope and assembled to the hollow ball connection **K35 (detail K35)** with the preassembled nut M20 / SW30 (which must firstly be completely loosened). Insertion of the tensioning cylinder and fork screws into the hollow balls of **K36 and K37** can be simplified by the tension support from the supplied rope. When securing the tension nut, care must be taken to ensure the correct alignment of the ropes and that they correspond to their run progression in the space net.

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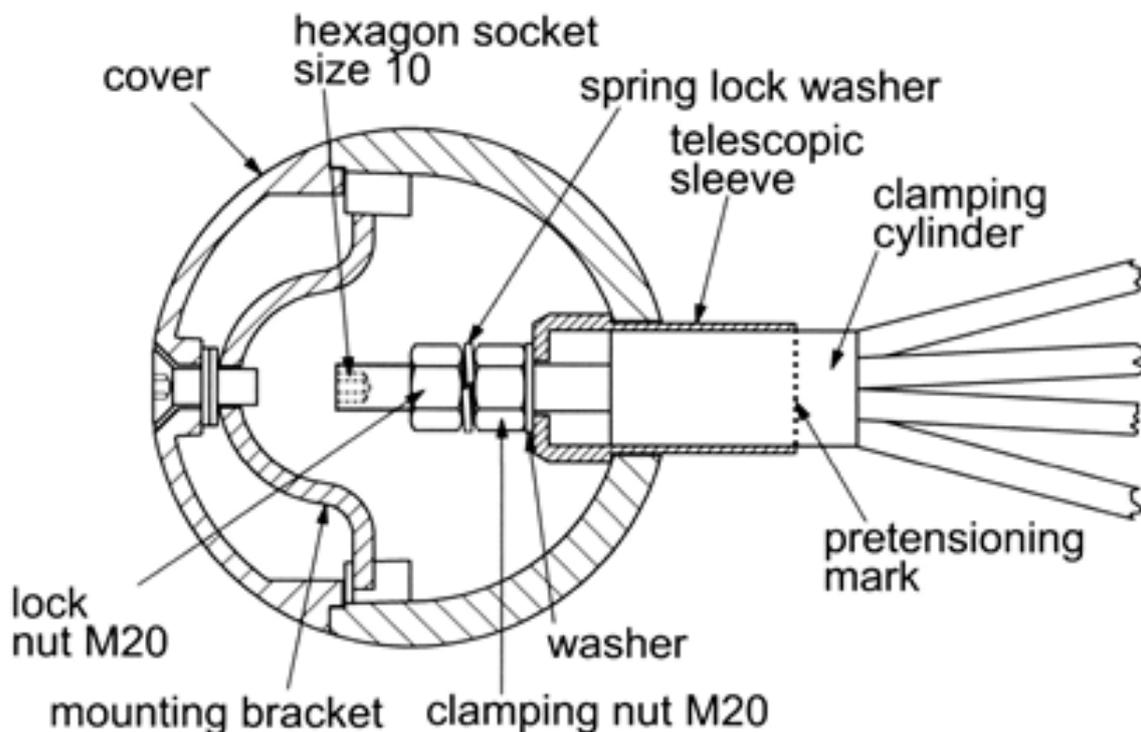
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### Preassembly of the space net

The preassembly of the space net begins by screwing the tension systems into the hollow balls of **K35**. After that, the tension systems in **K36** (Figure 3 and Figure 4) are assembled (Figure 6). In doing this, the tensioning cylinder is inserted into the telescopic sleeve with the M20 bolt and mounted from the inside with the tension nut M20 (Size 32) with approximately 5 turns of the thread. Following this, are the tension screws for the hollow balls **K37** (Figure 3 and Figure 4), which also mount the tension rope via the fork screws (Figure 7).



**Figure 6**

### Tensioning the space net

The tensioning of the space net starts with the hollow balls **K37**, which are screwed up to the locking nut (Figure 7) using the special spanner supplied. Afterwards, tensioning is carried out at the hollow balls **K36** until the marking (Figure 6). It is important that the net is under equally strong tension.

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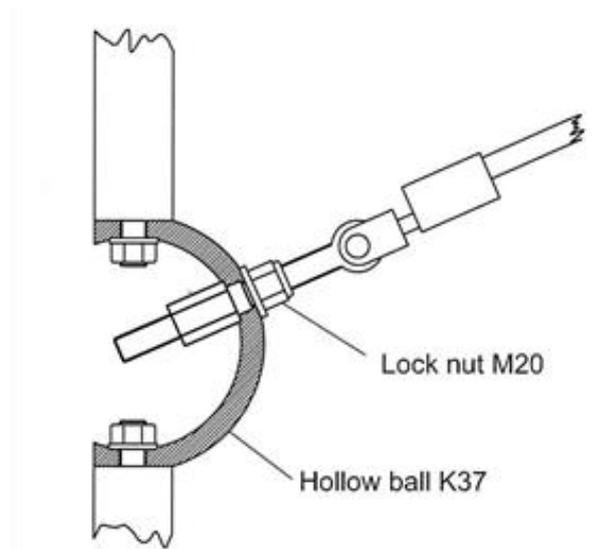


Figure 7

**Caution!**  
It is imperative that at all tension points, the ropes under tension do not turn.  
If necessary, counter this with a suitable tool.

### Securing the space net

After tensioning, the tension nuts are to be locked on all K36 hollow balls using the lock nuts and spring lock washer provided (M20 Size 32). In order to tighten the locking nut, the hexagon socket screw key size 10 must be inserted into the M20 screwed bolt and held (**Figure 6**). The locking nuts Size 30 (**Figure 7**) are to be inspected once again to ensure that they are solidly secured at the K37 hollow balls. Finally, all hollow balls from K36 and K37 are to be closed by screwing the hollow balls with the prepared covers via a clamping screw (**Figure 6**). As a next step, the hollow balls K35 are to be closed. In doing this, please ensure that the cover is positioned evenly so that our company logo is readable. Thank you.

### Assembly of the climbing nets

The climbing nets are screwed with the supplied securing clamps to the tubes on level 1 (**Figure 4**) as well as with the pressed bolts to the **hollow balls K35**. Please pay attention to the correct alignment of the clamps according to **Figure 8**. The upper ends of the ropes are led through the tube socket attached to the **hollow ball K35** and mounted from the inside with the **tensioning nut M16 (size 24)** with approximately 3 turns of the thread.

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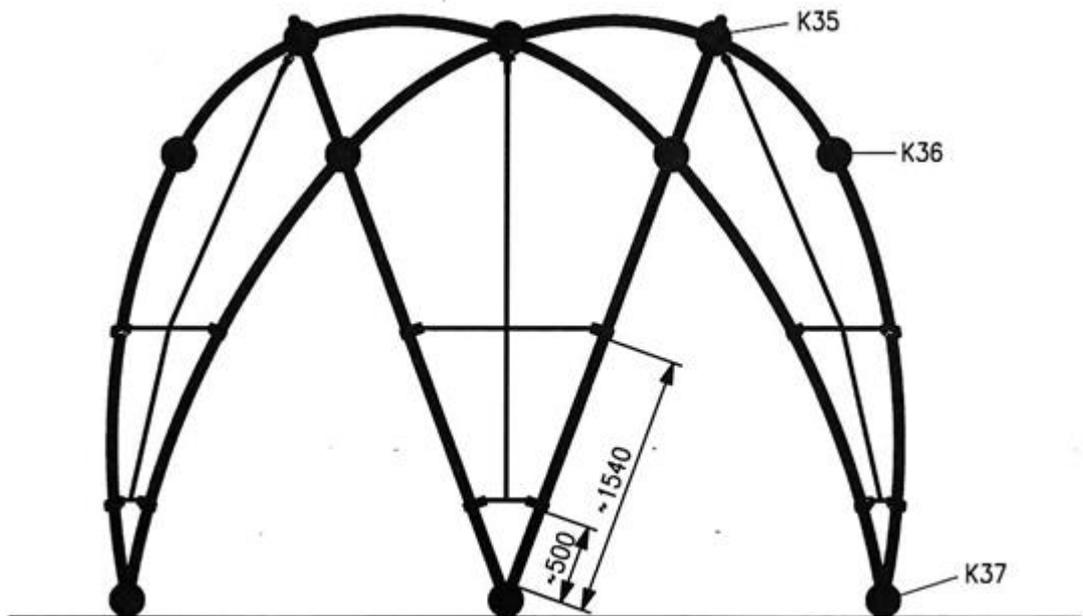


Figure 8

After the alignment, the ropes can be tightly screwed to the tubes with the securing clamps (see Figure 8 for the distance dimension of the securing clamps to the lower hollow ball). Now the tensioning of the climbing net is to be carried out through the tension nuts in the hollow ball K35. After tensioning, the tension nuts are to be locked on all **K35 hollow balls** using the **lock nuts M16**. The **hollow balls K35** are to be closed now with the cover in the same way as the **hollow balls K36** and **K37**. Finally, the hexagon socket of all screw heads of the securing clamps has to be locked with the supplied cover caps.

**Note:** before screwing the Allen screws for the securing clamp or the tensioning nut M16 the supplied lubrication gel is to be applied the stainless steel thread.

**Remember to re-tension!**  
The first re-tension of the space net has to be carried out already after one to two weeks of use (refer to the operative inspection for the procedure).

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## 2 Maintenance instruction

### 2.1 Maintenance intervals

#### Routine visual inspection

- The frequency of inspections should be oriented on local conditions (high or low amount of use, vandalism, air contamination, weather effects etc.).
- Check the securing clamps for tightness or damage. If the screw connection is loose, please tighten it. If the covers of the hexagon socket screws are missing, please make sure to replace them. The space net and the safety nets are to be checked for damage, especially breaks in the wire.
- Make sure that all hollow balls are closed.

#### Operational inspection (every six months)

- The first re-tensioning must be carried out after one to two weeks of usage. Re-tensioning is done via the tension nuts (M 20) in the hollow balls. First of all, the **K37** balls are re-tensioned. After removing the cover using an hexagon socket screw key size 10 and loosening of the locking nut M20 Size 30 (**Figure 8**) on the outside of the ball, the inside tension nut Size 30 is re-tensioned with the box spanner. It is imperative that the **locking nuts** are solidly tightened **after re-tensioning**.

After this, further re-tensioning is carried out at the **K36 knots** and should be carried out evenly. In order to do this, the inside locking nut M20 Size 32 is loosened after removing the cover and re-tensioned at the tension nut M20 Size 32 **beyond the pre-tension marking** using the special box spanner supplied.

After re-tensioning, the tension nuts on the **K36 knots** must be **locked again** with the locking nuts. **Please ensure the right position of the spring lock washer between the nuts. In order to loosen and secure the tension nut and locking nut M20 Size 32, the bolt M20 can be held with an hexagon socket screw key size 10 (Figure 7).**

Finally, the open hollow balls are to be closed again with the cover. Please ensure that the cover is placed evenly so that our company logo is readable. Thank you!

#### Caution!

**It is imperative that at all tension points, the ropes under tension do not turn.  
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- Further re-tensioning will be required once or twice more until the rope expansion is fully spent.

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**Main inspection (annual / in addition to the procedures of the visual and operational inspection)**

- Checking the anchor frame for excessive corrosion (every two years). The anchor frame is to be laid bare at the corner points, down to the construction depth and to be checked for corrosion.
- Checking of the tube screw joints to ensure solid and gap-free seating on the hollow balls. If a screw has become loose then this is to be re-tightened in the inside of the ball.
- Checking the locking nuts (**Figure 7**) to ensure solid seating at the K37 hollow balls.
- Checking the tensioning of the climbing nets and the locking nuts M16 to ensure solid seating at the hollow balls K35 (**Figure 8**). If necessary re-tensioning the climbing nets (see page 8 and 9).
- Checking the tension system for damage.

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