

# Technical Information – smb Adventure Park

**Installation instructions**  
**Maintenance instructions**

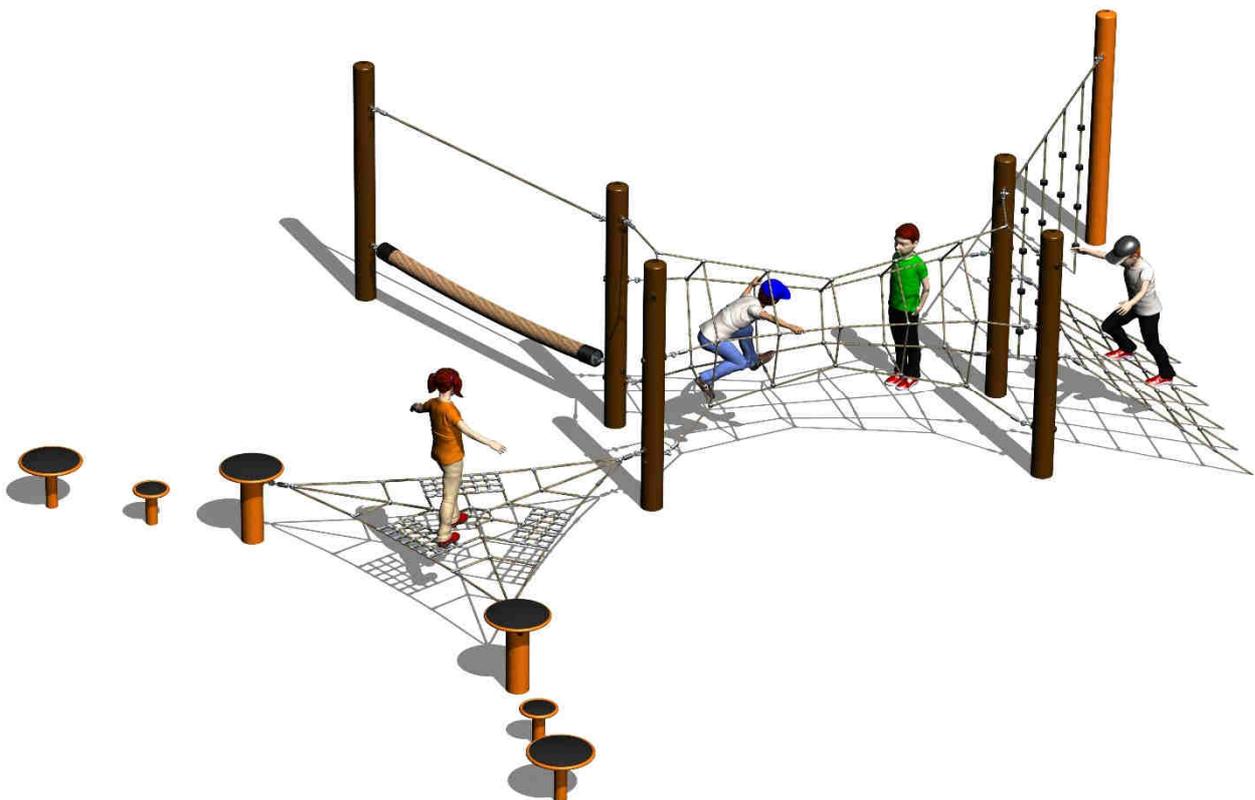
**EN 1176-1**  
**EN 1176-1**

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**Fig. 1- Example: Adventure Park Junior Variante 5**

No. 7220044

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## 1 General

The assembly has to be carried out by qualified personnel.

### **Equipment space**

see draft plan I - III

### **Age group**

4 years and up

### **Number of users**

ca. XX children

### **Maximum free drop height**

1,8 m

### **Ground quality**

We refer to EN 1176-1 with respect to the ground conditions in the playing area. 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 11) are accessible at all times. If necessary consult smb.

## 2 Assembly tools

### **Tools supplied**

1 piece socket key size 24

### **Additional tools required**

1 piece jaw wrench size 24

ordinary assembly tools (measuring tape, screwdriver, level, etc.)

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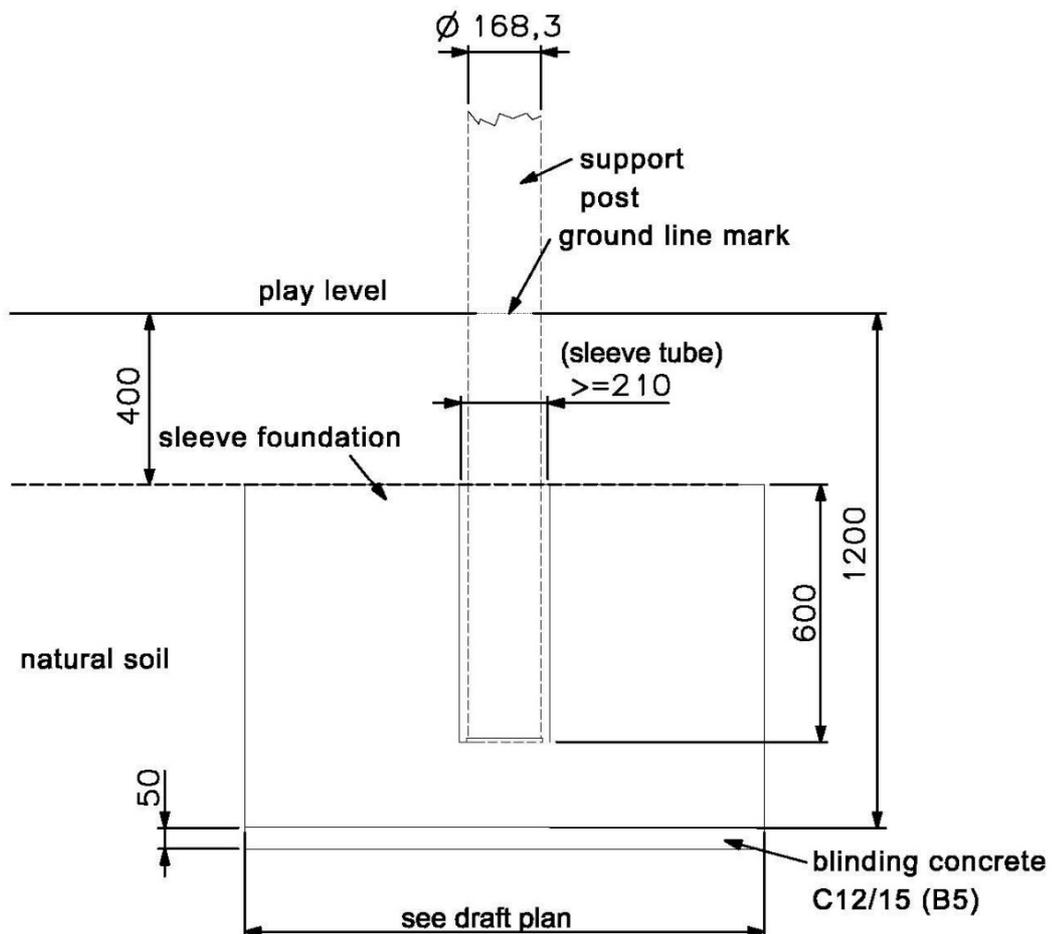
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### 3 Support posts foundations

Depending on the rope element and its length, you'll need different foundation sizes (**see draft plans**). Minimum concrete quality C20/25, setting time minimum 8 days.

We highly recommend the assembly through sleeve foundations (Fig. 2), for a better positioning and arrangement of the support posts (**draft plan**). The diameter of the tubes used for the creation of the sleeve foundations must be bigger than 210 mm. After the setting time of the concrete, the support posts are inserted into the respective sleeve foundations. The rope elements are loosely pre-assembled in order to have the right alignment of the posts. After that, the sleeve is also filled with concrete and all rope elements are to be removed (**accident risk**). After the setting time, all elements are to be attached to the support posts, following the instructions on the next pages.



**Fig. 2 – sleeve foundation**

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The alignment of the foundations to each other and the sizes of the possible foundations for the attachment of the ropes in the ground, can be found in the provided draft plans.

**Please note:** It might be necessary to insert eye bolts into the foundations, so that later on, the rope elements can be attached to the ground. Please refer to the draft plans and the directions on page 9.

When embedding the support posts, it is important to make sure that the posts are standing vertically on the same level. Furthermore, the connection points for the rope elements need to be aligned to each other.

To simplify the alignment of the posts, the rope elements may be attached loosely for now. After the alignment, the ropes must be removed again.

We assume that the building area is natural soil. Otherwise, smb needs to be contacted in order to possibly change the foundation sizes.

After the setting time, the rope elements can be installed between the support posts.

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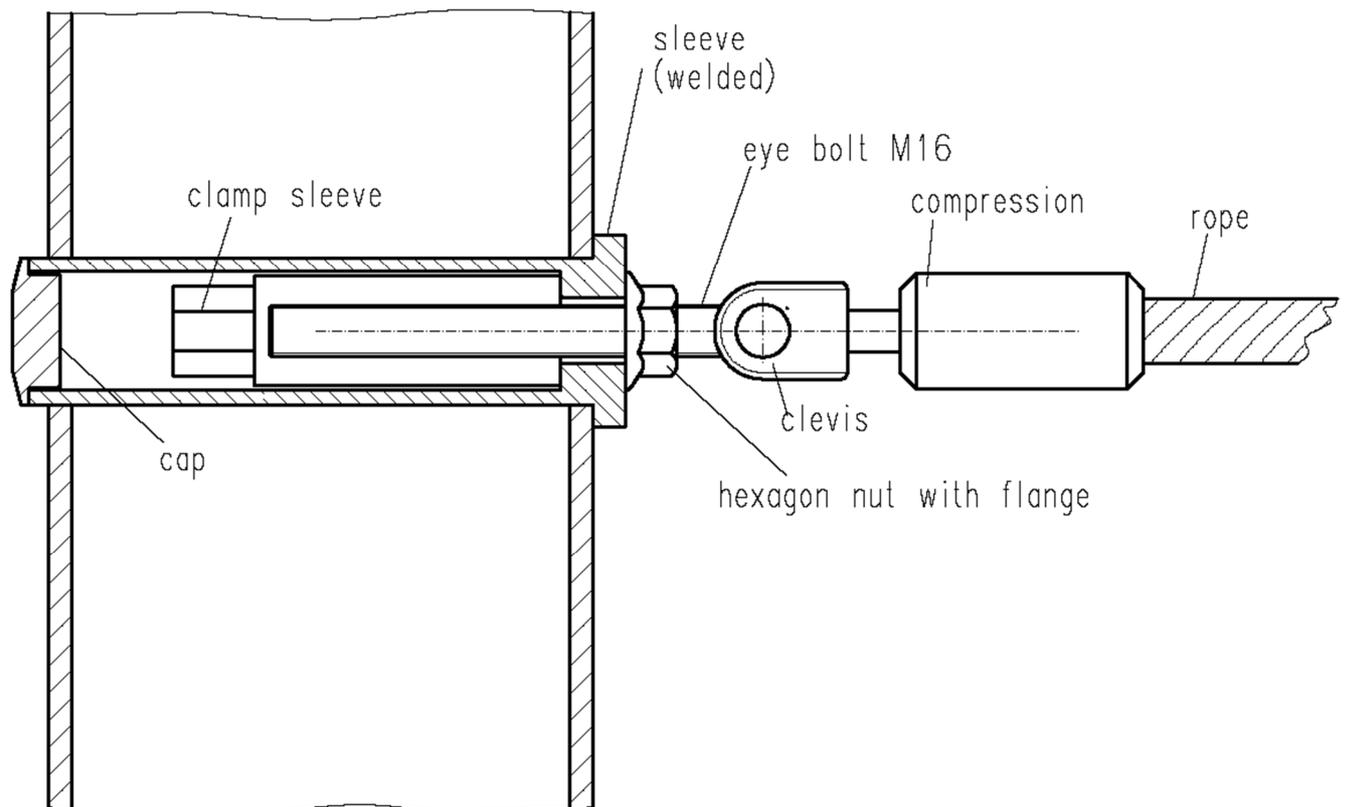
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## 4 Assembly of the different connection systems

### Assembly of the rope elements with a clamp sleeve and clevis-eye bolt

The marked rope elements are to be attached to the matching posts, which are also marked (SP1, SP2...). In order to do this, the clamp sleeve is put through the welded sleeve and screwed together with an eye bolt M16 (with only a few thread turns for a start). While doing so, make sure the self-locking nut M 16 has the right position (Fig. 3). For an easier assembly, screw the self-locking nut up to the thread end (beginning eye).

If all ends are pre-assembled like this, tensioning is carried out at all ends until the rope / rope element is under light initial tension. It is imperative that at all tension points, the ropes under tension do not turn. If necessary, counter this with a suitable tool (e.g. screwdriver in clevis). After that, the hexagon bolt is locked with the hexagon wrench. Finally, the supplied caps are to be put into the holes of the welded sleeves.



**Fig. 3 – clamp sleeve and eye bolt M16**

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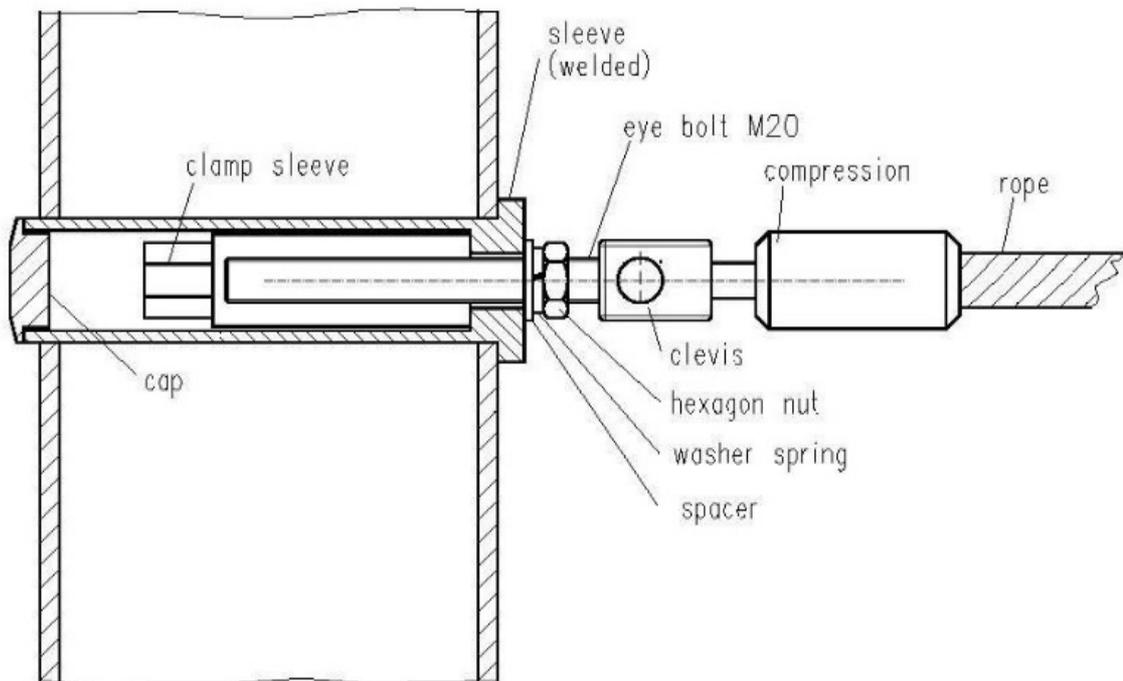
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### Assembly of the Spider cave/net and jungle house with a clamp sleeve and clevis-eye bolt

The marked rope elements are to be attached to the matching posts, which are also marked (SP1, SP2...). In order to do this, the clamp sleeve is put through the welded sleeve and screwed together with an eye bolt M20 (with only a few thread turns for a start). While doing so, make sure the self-locking nut M 20, the spring washer and the spacer have the right position (Fig. 4). For an easier assembly, screw the self-locking nut up to the thread end (beginning eye).

If all ends are pre-assembled like this, tensioning is carried out at all ends until the rope / rope element is under light initial tension. It is imperative that at all tension points, the ropes under tension do not turn. If necessary, counter this with a suitable tool (e.g. screwdriver in clevis). After that, the hexagon bolt is locked with the hexagon wrench. Finally, the caps supplied are to be put into the holes of the welded sleeves.



**Fig. 4 – clamp sleeve and eye bolt M20**

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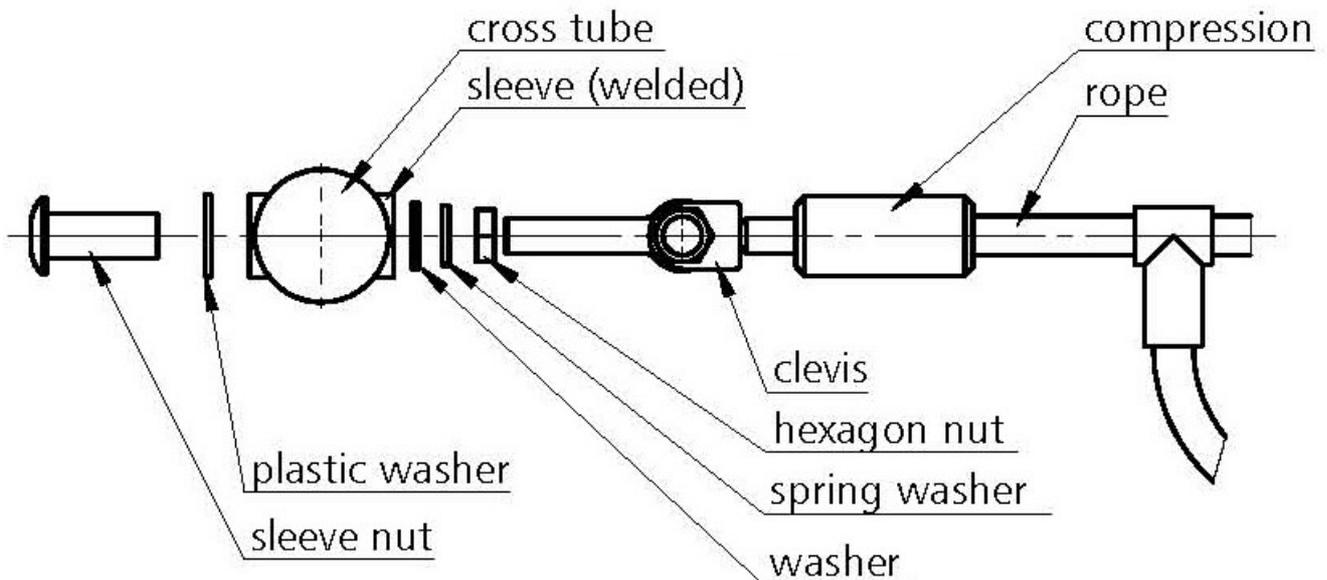
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**Assembly of elements with connection by cross tubes (monkey swing and flea ladder)**

As seen on image 4, the monkey swing / flea ladder is attached to the cross tubes of posts SPXX and SPXX. For this, follow the directions of the rope elements with with a clamp sleeve and clevis-eye bolt. However, in this case the eye bolt is not screwed via a clamping sleeve, but via a supplied sleeve nut. Here, the plastic disk is intended for the sleeve nut. As described under “Assembly of the rope elements with a clamp sleeve and clevis-eye bolt”, it is important to pre-assemble lightly and finally tension equally at all ends. In the end, the hexagon bolt M16 is locked with the hexagon wrench size 24.



**Fig. 5 – rope elements with cross tube fixing**

**Attaching the rope element twister (if existing)**

Please mind the labels on the element for positioning the net properly. After pre-assembling whirlwind, the clevis' are to be turned in the direction of the rope course. By doing this, the clevis' are also aligned.

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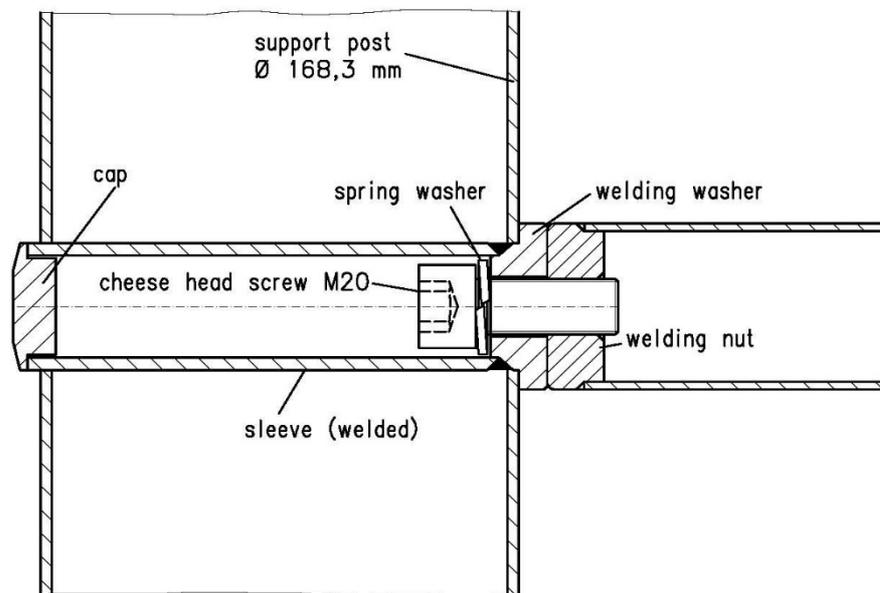
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**Assembly of the cross tubes for the climbing wall (if existing)**

In order to attach the cross tubes of the climbing wall to the support posts, the spring washer needs to be placed onto the cheese head screw M20. After that position the cross tube (Fig. 6) and put the cheese head screw M20 together with the spring washer through the sleeve that is welded on the post. Then screw everything into the welding nut. If the screws are tightened, you can close the openings of the sleeves with the covers.



**Fig. 6 – climbing wall fixing with cross tubes**

**Attachement of the climbing wall (if existing)**

First of all, attach two retaining clamps on the lower edge of the climbing wall (see label). Please make sure to attach them in a way, so that on the one side they catch the 13 mm drilling hole of the climbing wall with their “nose” and cover the cross tube on the other side. If both lower retaining clamps have been attached, they are screwed together with the cheese head screws and nuts (Fig. 7). For a start, only screw hand-tight, so that the clamps can still be twisted on the tube.

**Attention:** Before fixing the cheese head screws in the clamp-climbing wall area, make sure to apply the supplied metal gel on to the screw threads.

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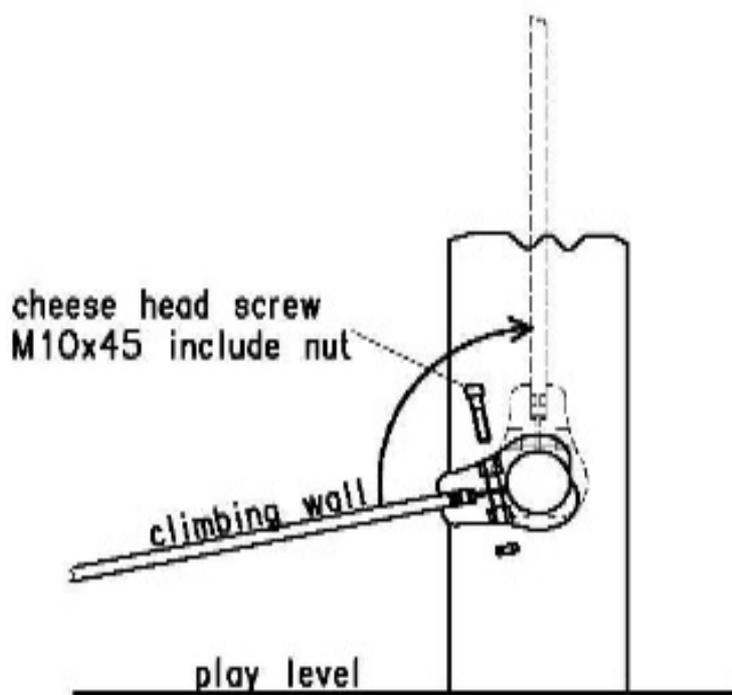


Fig. 7 – clamp assembly

Now the climbing wall can be put into its final position by lifting it up to the vertical. Also, it can be attached to the cross tubes with the remaining retaining clamps. For this, all 13 mm edge drillings are covered with a clamp and all screwings are tightened.

### Attaching the rope elements to the foundations (if existing)

If rope elements have to be anchored in the ground, it is necessary to insert the ring bolts into the respective foundations in advance (**see draft plans**). Supplied shackles, which are already attached to the rope elements, connect the rope elements to the ring bolts (which are embedded in concrete).

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### Assembly of the horizontal bar (if existing)

First of all, put the distance sleeve onto the hexagon screw M16 when attaching the horizontal bar to the support post. Afterwards, position the horizontal bar (Fig. 8) and put the hexagon screw M16 together with the distance sleeve through the sleeve that is welded on the post. Then screw everything into the welding nut. If the screws are tightened, you can close the openings of the sleeves with the covers.

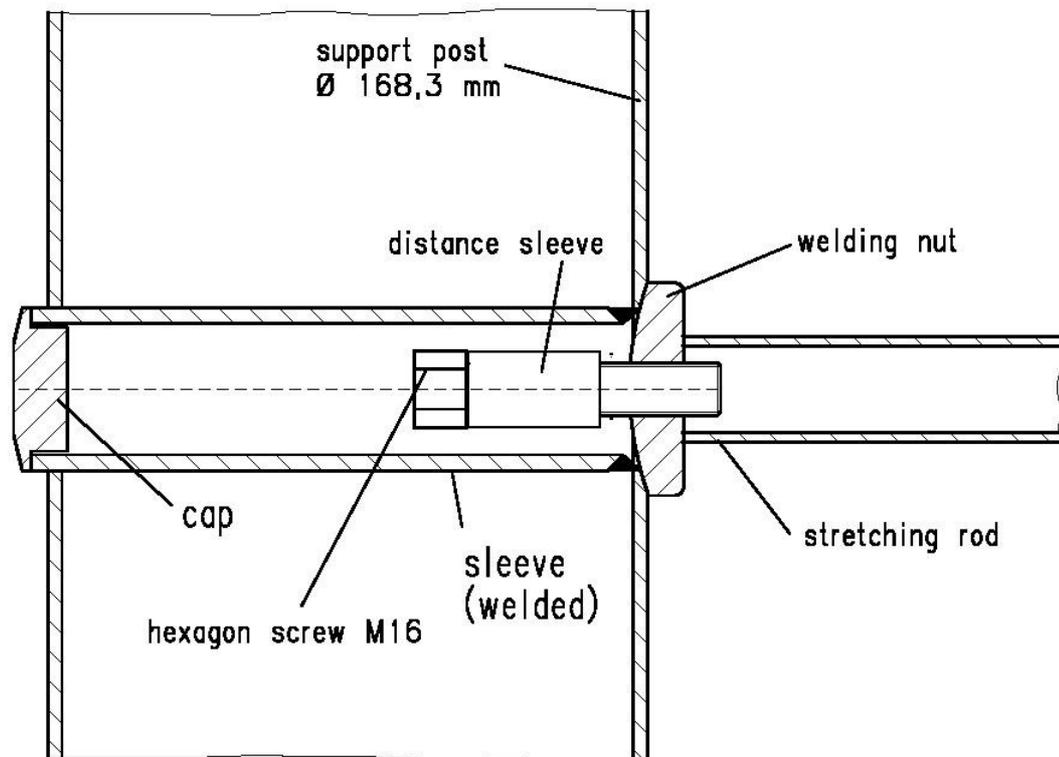


Fig. 8 – horizontal bar fixing

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### Assembly of the balancing bound (if existing)

The platforms on the posts have one or more flatsteel-connections, which need to be aligned according to the course of the ropeways (**Fehler! Verweisquelle konnte nicht gefunden werden.**).

The balancing bound needs to be attached to the flatsteel-connection and screwed with the supplied locking nuts (fixing nut with plastic part). There is one locking nut, which is already screwed onto the eye bolt. With this one, the sag can be adjusted. The more sag you have, the higher is the difficulty level when balancing. With the second locking nut, which has to be screwed on by you, the eye bolt can be locked after adjusting the sag.

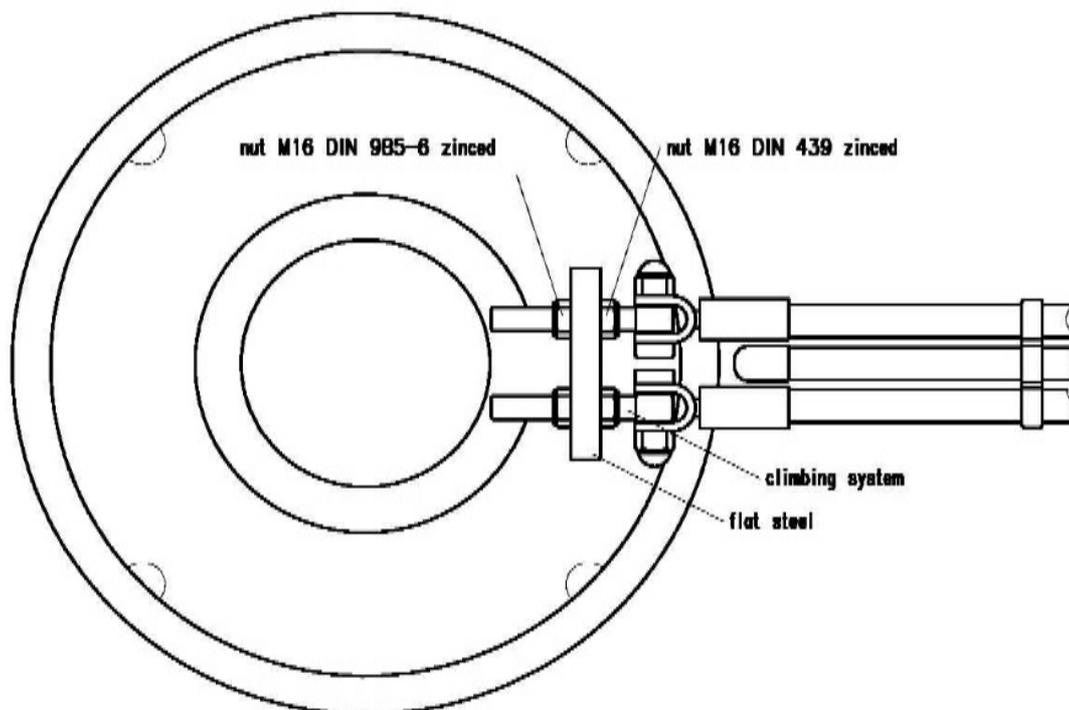


Fig. 9 – plattform – view from beneath

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## **5 Maintenance instructions EN 1176-1**

### **Visual routine inspection**

Frequency will be based on local conditions (high/low use, vandalism, air pollution, effects of weather). The ropes and nets need to be checked for damage, especially for broken strands. The climbing wall as well as the climber grips are to be checked for damage (e.g. cracks). The retaining clamps of the climbing wall and the screwing of the horizontal bar are to be checked for tightness. If a screw connection is loose, please tighten it.

### **Operational inspection (semi-annual)**

The screw connections of the bracing system are to be checked for a firm fit.

The nets and ropes need to be checked for damage and the right tension. If necessary, you need to re-tension the elements, following the directions below (also see image 3):

Carefully loosen the caps from the sleeves (they will be re-used later on). Then, loosen the self-locking nut. You may have to counter against the clevis with a suitable tool (e.g. screwdriver). After that, you can retension at the inner sleeves with a socket key size 24 until you have a slight initial tension. Proceed with all other tension points of the rope constructions and tension equally. It is imperative that at all tension points, the ropes under tension do not turn. If you have reached the necessary initial tension, lock the nuts again and close up the welded sleeves with the locking caps.

### **Main inspection (annual)**

- Check the support posts in the ground area for excessive corrosion (tubes coming out of the concrete).
- If there is a synthetic protective surface (seamless safety surface or safety tiles), the frequency of inspection for checking the support posts in the ground area is 3 years instead of once-a-year. After checking the safety surface is to repair at the relevant posts (Notice: for loose fill material the frequency of inspection is once-a-year).
- The screw connections of the bracing system need to be checked for a firm fit.
- The nets and ropes need to be checked for damage and the right tension. If necessary, you need to re-tension the elements (as described earlier).

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