

# Technical information – smb Adventure Park V7

Mounting instruction  
Maintenance instruction

DIN EN 1176-1  
DIN EN 1176-1



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

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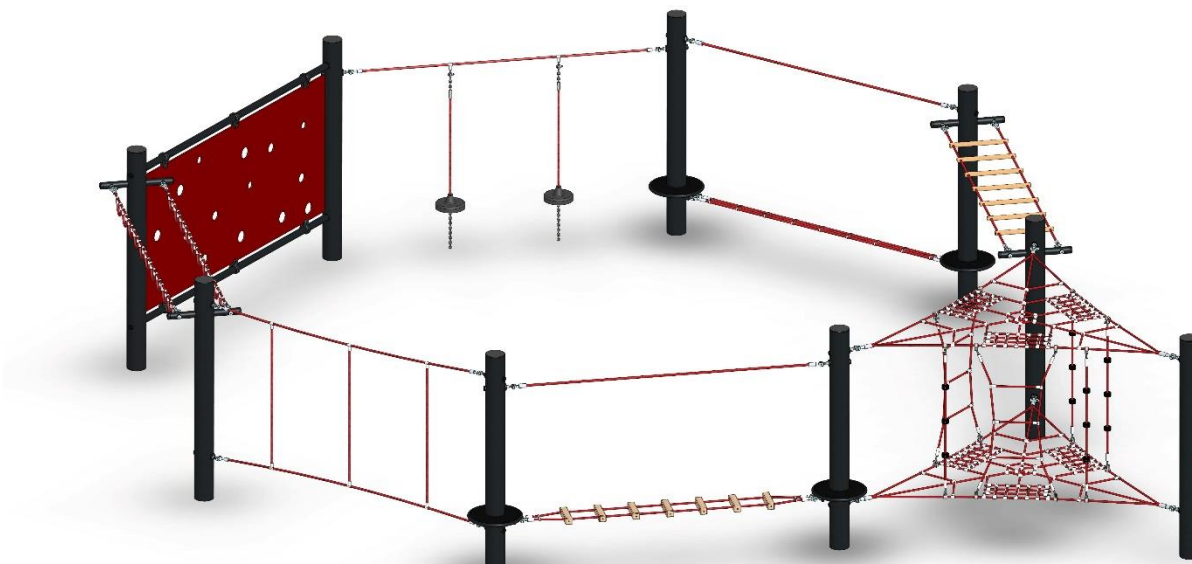


Fig. 1- smb Adventure Park V7

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## 1 Mounting instruction

## 1.1 General

The assembly has to be carried out by qualified personnel.

## Equipment space

see draft plan I - III

### Age group

6 years and up

## Number of users

ca. 30 children

### Maximum free drop height

1.8 m

### Weight heaviest component

97 kg

## 1.2 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 protection, it must be guaranteed that all positions relevant for maintenance (refer to the maintenance instructions on page 12) are accessible at all times. If necessary, consult smb.

### 1.3 Assembly tools

### Tools supplied

1 piece socket key size 24

### Additional tools required

1 piece open jaw wrench size 24  
1 piece long Allen key size 8 and 14 (only for Climbing wall)  
1 piece Torx bit size 50 (only for Flea ladder or Monkey swing)  
ordinary assembly tools (measuring tape, screwdriver, level, etc.)

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## 1.4 Support post foundations

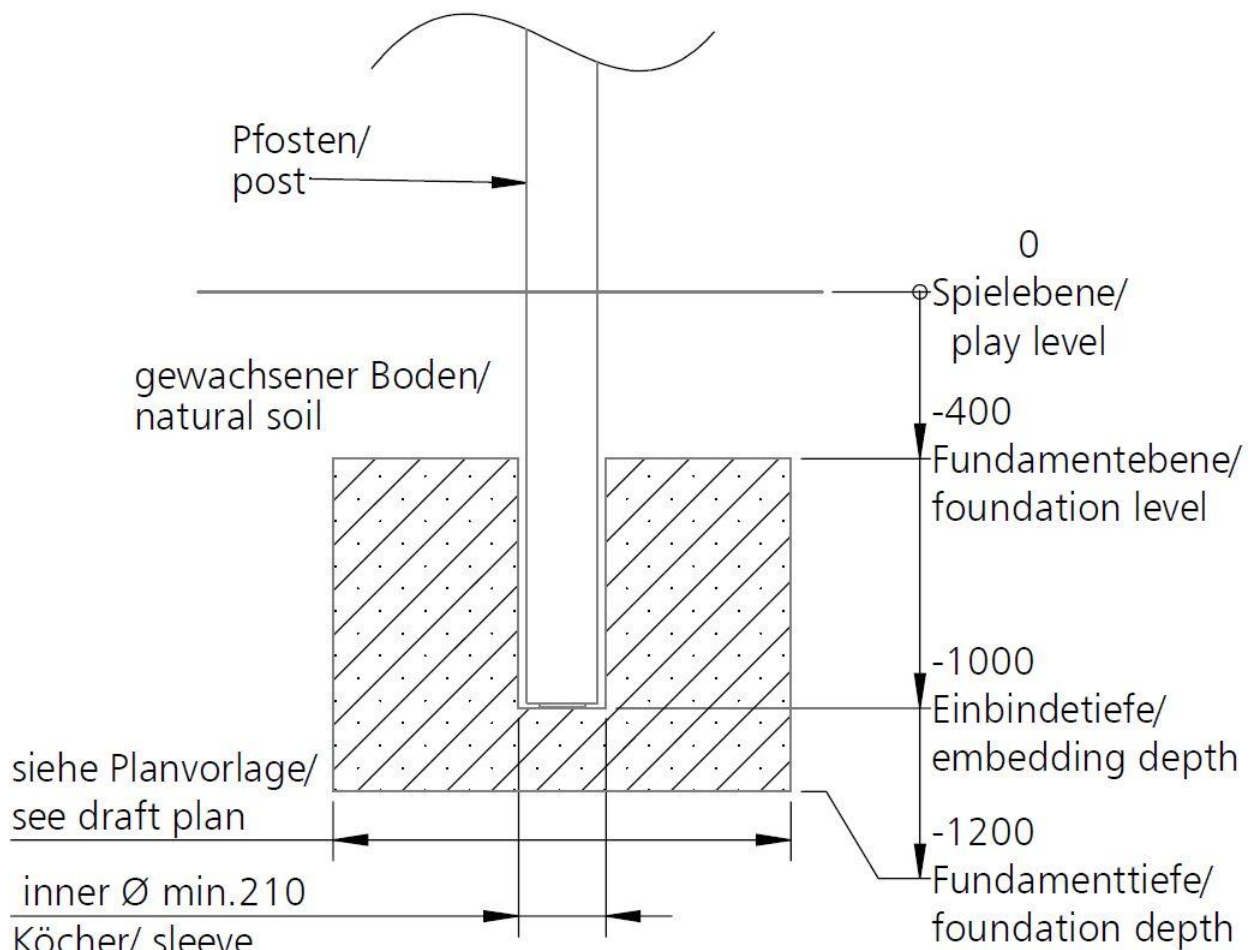
### General

Depending on the rope elements and their lengths, you'll need different foundation sizes (see **draft plans**). The minimum concrete quality is C20/25 and the setting time is at least 8 days.

We assume that the building ground consists of undisturbed, naturally grown soil. Otherwise, contact smb to determine if the foundation sizes need to be changed.

### Foundation

We highly recommend the assembly through sleeve foundations (**Fig. 2**), for a better positioning and arrangement of the support posts (see **draft plan**). The diameter of the tubes used for the creation of the sleeve foundations must be bigger than 210 mm.



**Fig. 2 – Sleeve foundation**

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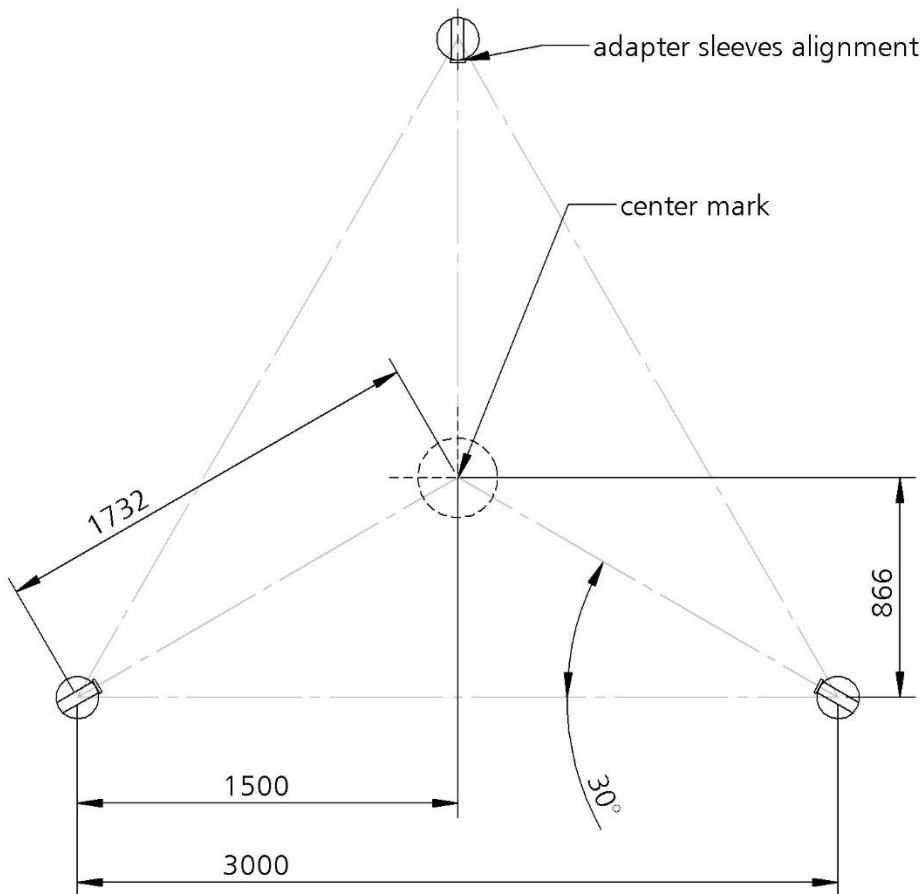
### Positioning the posts

After the concrete has set, the support posts are placed in the respective sleeve foundations and aligned vertically using suitable wedges. The rope elements are loosely pre-assembled in order to ensure the right alignment of the posts. To avoid accidents or staining of the rope elements, these are removed before the concrete for the sleeves is poured.

#### Please note

Please be sure to follow the instructions for installing the Climbing wall and the Clamberer (if included).

For the triangular play element Spider cave, pay special attention to the alignment of the clamping sleeves. These must always be aligned towards the center.



**Fig. 3 – Alignment of a triangular element using a center mark**

After the setting time, all elements are attached to the support posts, following the instructions on the next pages.

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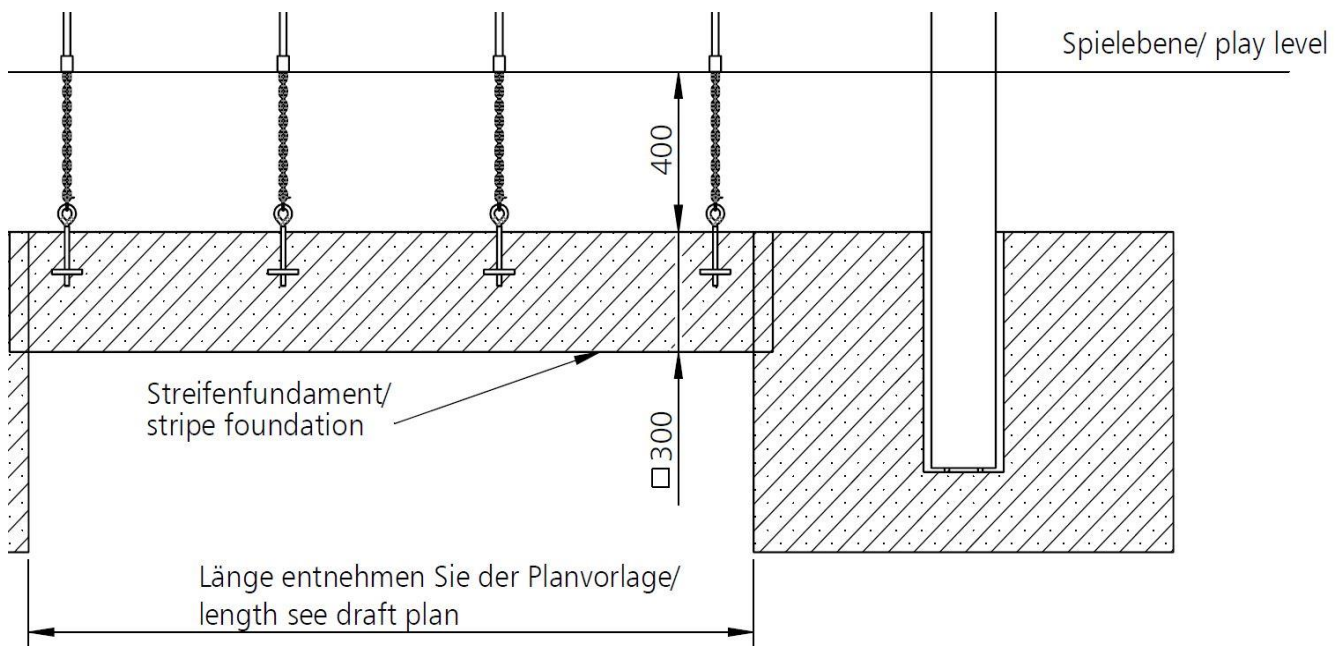
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### Strip and point foundations

The Liana park requires further anchoring of eyebolts in the foundation (**Fig. 4**). See the included **draft plan** for dimensions and placement.



**Fig. 4 – Example of a stripe foundation in the case of Raindrop rope elements**

After the concrete has set, the rope elements are attached using the supplied shackles, which on one side connect to the chains located on the rope element and on the other side to the eyebolts set in concrete.

#### **Please note**

It is essential to ensure that the respective vertical ropes of the rope elements are installed pretensioned by hand. The shackles must therefore be attached to the chain link that is located as far up as possible!

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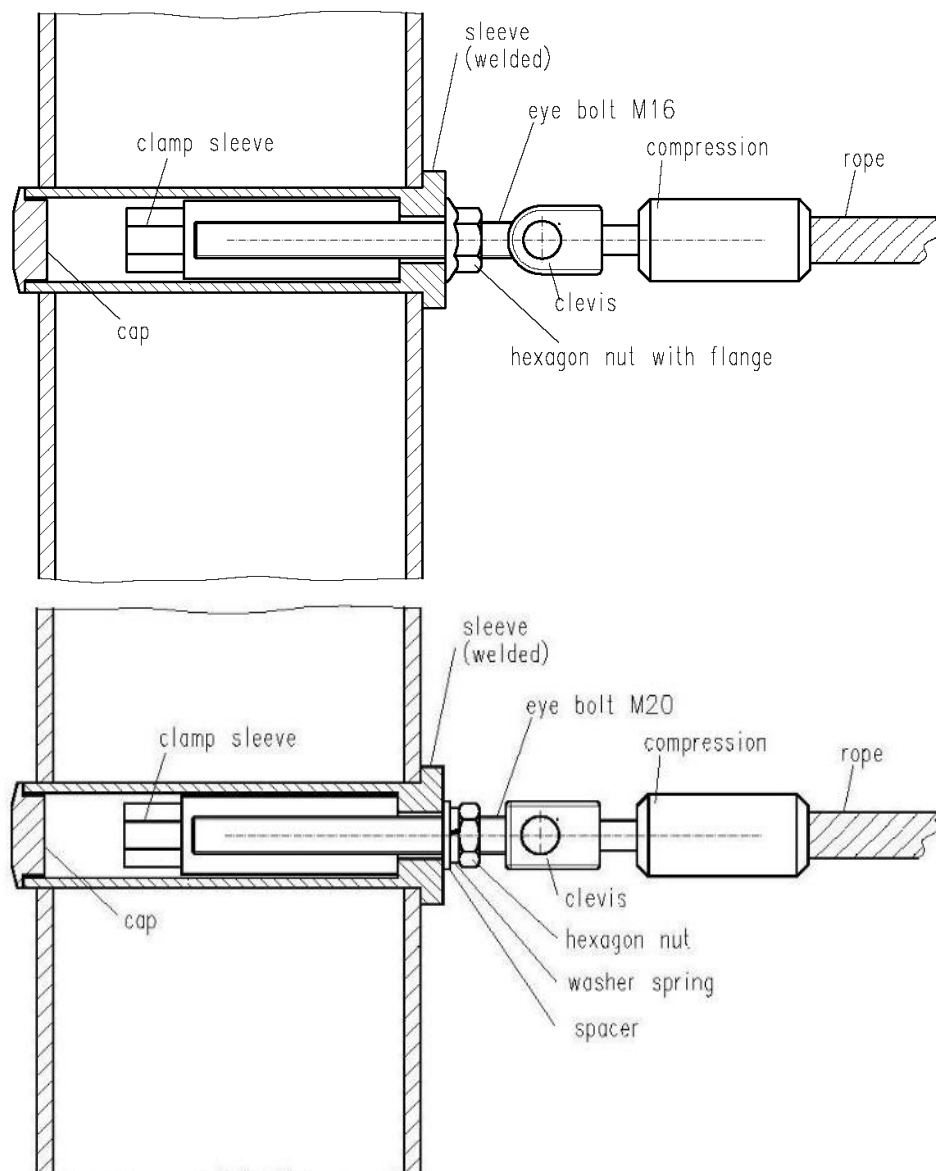
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## 1.5 Assembling with tensioning system M16 and M20

The marked rope elements are attached to the matching posts, which are also marked (**SP1**, **SP2**...). To do this, the clamping sleeve is first removed, the eyebolt is inserted through the welded sleeve and fixed again using the clamping sleeve. For easier assembly, this is initially only screwed in for about 3 thread turns.

There are two different sizes, depending on the play element. These differ slightly in assembly, but all the necessary parts are pre-assembled and must be re-assembled in exactly the same way (**Fig. 5**).



**Fig. 5 – Assembling with tensioning systems M16 and M20**

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Once all play element ends have been pre-assembled in this way, tension is applied evenly to all connections until the rope element is under good tension. If necessary, the lock nut must be screwed on further in the direction of the clevis.

When tensioning, make absolutely sure that the ropes do not twist. Use a suitable tool to counteract if necessary (e.g. screwdriver in clevis).



Fig. 6 - Correct alignment of the fork-eyebolts using the Air cave as an example

**Please note**

When connecting via the clamping sleeve systems, make sure that the clevis is in a vertical position (**Fig. 6**). This ensures a compensating movement during play operation is possible, relieves the pressure on the rope and significantly contributes to the durability of the play elements!

The hexagon nut is then locked with an open jaw wrench. Lastly, the supplied caps are placed on the openings of the welded sleeve.

**Please note**

To compensate for the initial rope elongation, the first retensioning of all rope elements must take place after the first two weeks of use!

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## 1.6 Assembling play elements Monkey swing and Flea ladder

The Monkey swing / Flea ladder is mounted on the cross bars of the corresponding posts (see **draft plan**) as shown in **Fig. 7**. Proceed in the same way as for the assembly of the rope elements with a clamping sleeve with clevis eye bolt, but instead of fixing the eye bolt by using the clamping sleeve, it is fixed by using the supplied sleeve nut. The plastic washer is intended for the sleeve nut. As in the section "1.5 Assembling with tensioning system M16 and M20" on page 6, the eye bolt must first be lightly pre-assembled and then evenly tensioned at all ends.

Finally, the M16 hexagon nut is locked with a size 24 open jaw wrench.

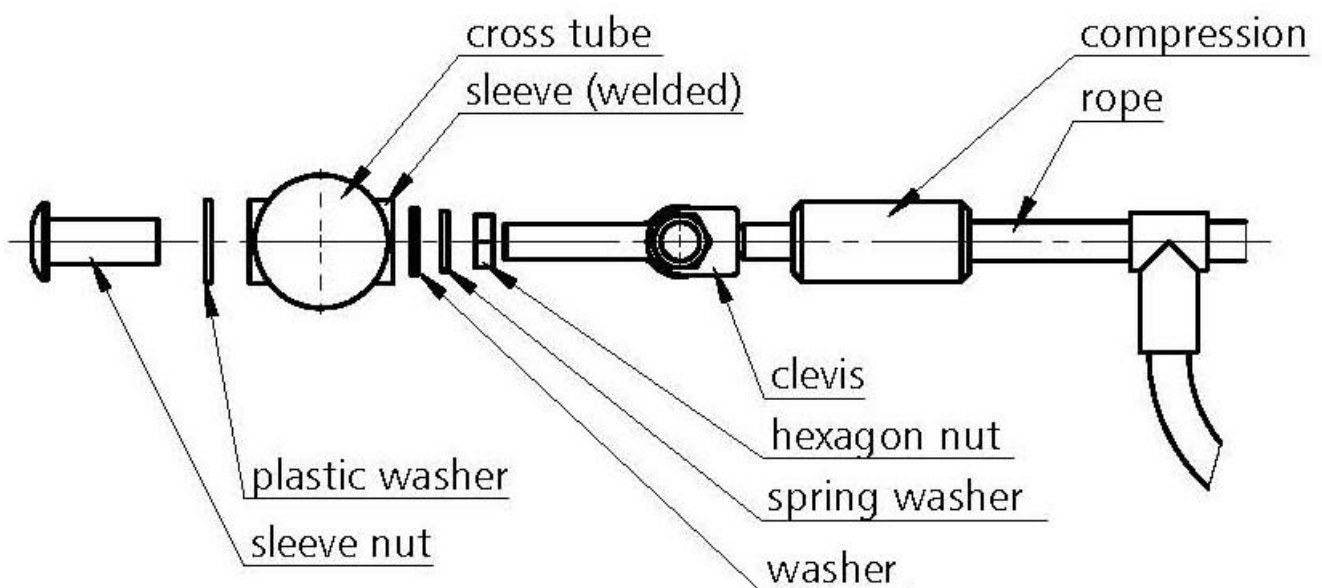


Fig. 7 - Rope elements with cross bar connection

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## 1.7 Assembling the horizontal tubes for the Climbing wall

In order to mount the horizontal tubes for the Climbing wall to the support posts, the spring washer is first placed on the M20 cylinder screw. Then, the horizontal tube is positioned and the cylinder head screw and spring washer are inserted together through the sleeve welded into the post and screwed into the welding nut (**Fig. 8**). Once the screws have been tightened on both sides, the caps are placed on the openings of the sleeves.

### Please note

In order to ensure the correct distance between the two support posts, the two horizontal tubes must be mounted before pouring the concrete for the support posts.

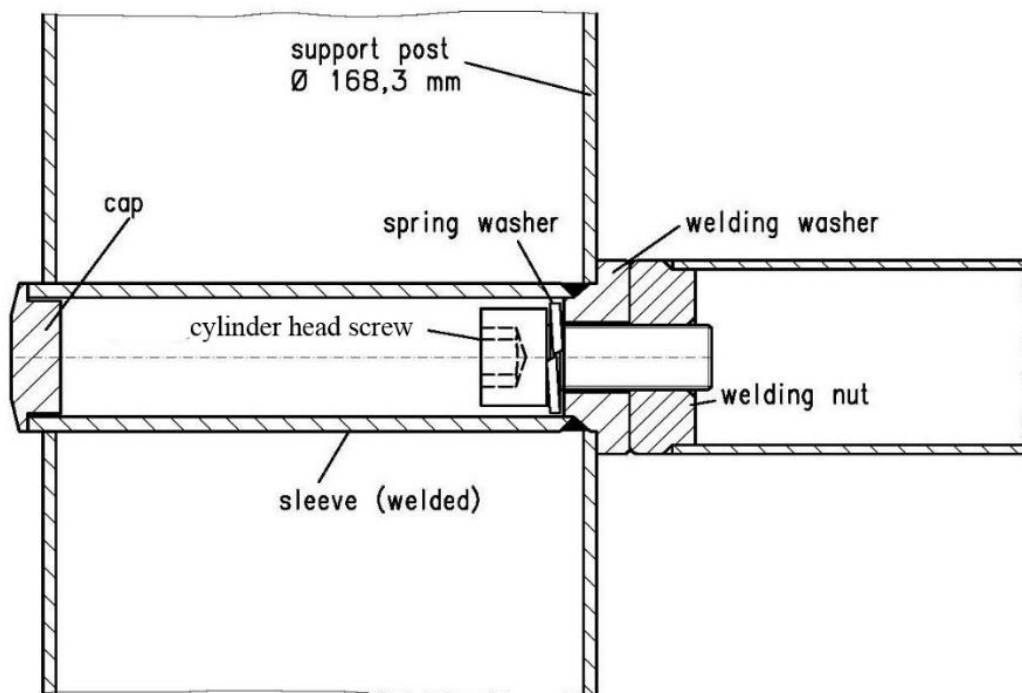


Fig. 8- Climbing wall connection with horizontal tubes

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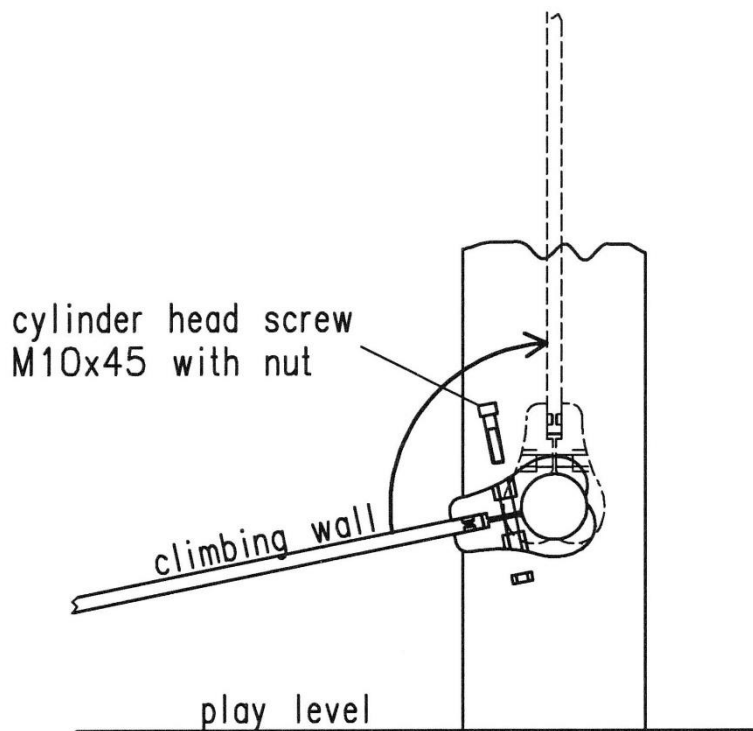
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## 1.8 Attaching the Climbing wall

The securing clamps are attached to the bottom edge of the climbing panels (see the sticker label on the panel). These are assembled by placing the "nose" into the 13 mm hole of the climbing panel and the other side encloses the horizontal bottom tube (1,560 mm with inside thread). When the bottom clamps have been placed, fasten them with the supplied screw and nut. Initially the clamps are tightened in such a way that they can still rotate on the bottom tube.

The Climbing wall can now be tilted into its final position and fastened to the surrounding tubes with the remaining clamps in all 13 mm edge holes. Lastly, all screw connections are tightened firmly **with a torque of 100 Nm**.



**Fig. 9 – Attaching the securing clamps for a Climbing wall**

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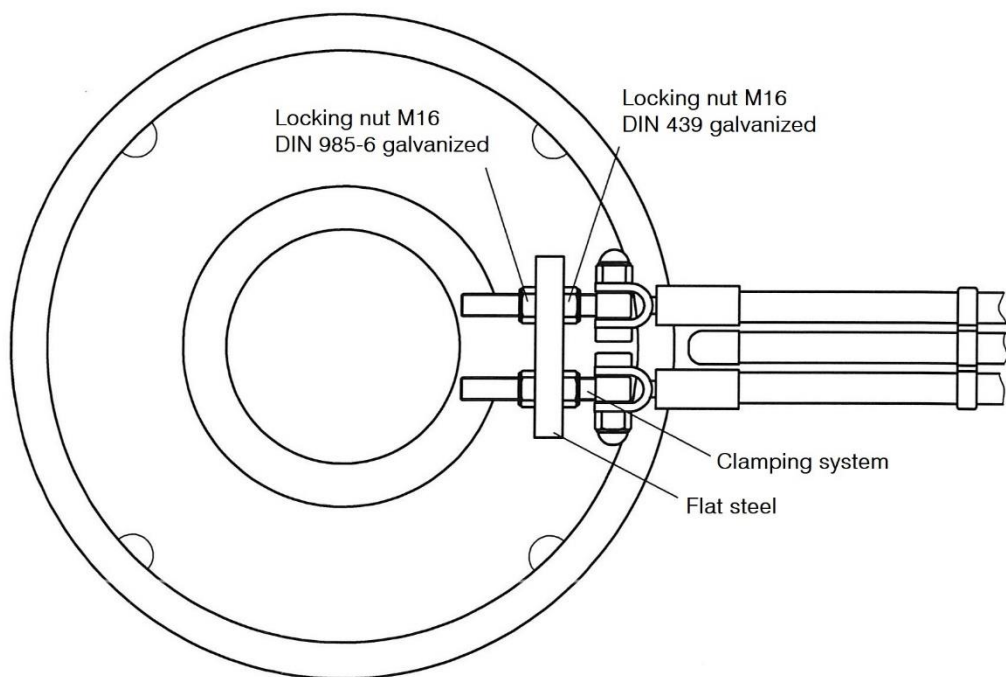
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## 1.9 Assembling the Floating Bridge and Centipede

The platforms on the posts have one or more flat steel connections, which need to be aligned according to the direction of the ropeways.

The bottom rope elements of the Floating Bridge and the Centipede are attached to the flat steel connection according to **Fig. 10**. One of the locking nuts is already screwed onto each eye bolt and is used to adjust the sag of the rope element. The level of difficulty for balancing rises when more sag is allowed. After the sag has been set, the second locking nut is screwed on tightly to lock the eye bolt.



**Fig. 10 – Platform bottom view**

### **Please note**

After mounting the rope and play elements, remove the sticker labels in the visible areas! Thank you very much!

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## 2 Maintenance instructions

### Visual routine inspection

The frequency of this inspection depends on local conditions (high/low usage, vandalism, air contamination, effects of the weather).

- Check all rope elements for damage, particularly for line breaks
- Check all screw connections and tighten if necessary.
- Check the climbing panels as well as the climbing holds for damage (e.g. cracks). Replace the climbing holds in case of any damage.
- Check that the clamps of the climbing plates, the screw connection of the climbing holds and the connection of the Clamberer are tight. In case the screw connection is loose, please tighten it.
- Check if all plastic caps of the tensioning systems and the lids of the support post are still there and intact. If some plastic caps or lids are missing, replace them.

### Operational inspection (every 6 months)

In addition to the visual routine-inspection:

- Check all rope elements for the right tension. If necessary, retension the elements, following the directions below (also see Assembling with tensioning system M16 and M20 on page 6).

Carefully loosen the caps from the sleeves (they are reused after retensioning) and loosen the self-locking nut. Use a suitable tool to counteract if necessary (e.g. screwdriver in clevis). After that, 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 elements and tension equally. It is important that at all tension points, the ropes under tension do not twist. If you have reached the necessary tension, lock the nuts again and close up the welded sleeves with the caps. **Make sure that the clevis is in a vertical position (Fig. 6).**

### Main inspection (yearly)

In addition to the visual and operational inspection:

- Check the support posts for excessive corrosion, especially at the transition between steel and concrete. In case of synthetic protection surface (a poured fall protection granulate or fall protection panels), the frequency of inspection for checking the support posts under play level is 3 years instead of yearly. After the inspection, the fall protection surface must be recast in the relevant places or the fall protection panels must be professionally reinserted.

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