

# Technical Information

Monte Bianco Variante 2

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10.11.15

## General

The work described is to be carried out by specialist personnel.

### Dimensions (Measurements of the system)

Overall size	4.2 x 7.2 m
Clearance	1.57 m
Minimum space	7.2 x 10.7 m
Height	4.44 m

### Age suitability

From 4 years

### Number of users

Approx 35 children

### Maximum height of fall

1.63 m

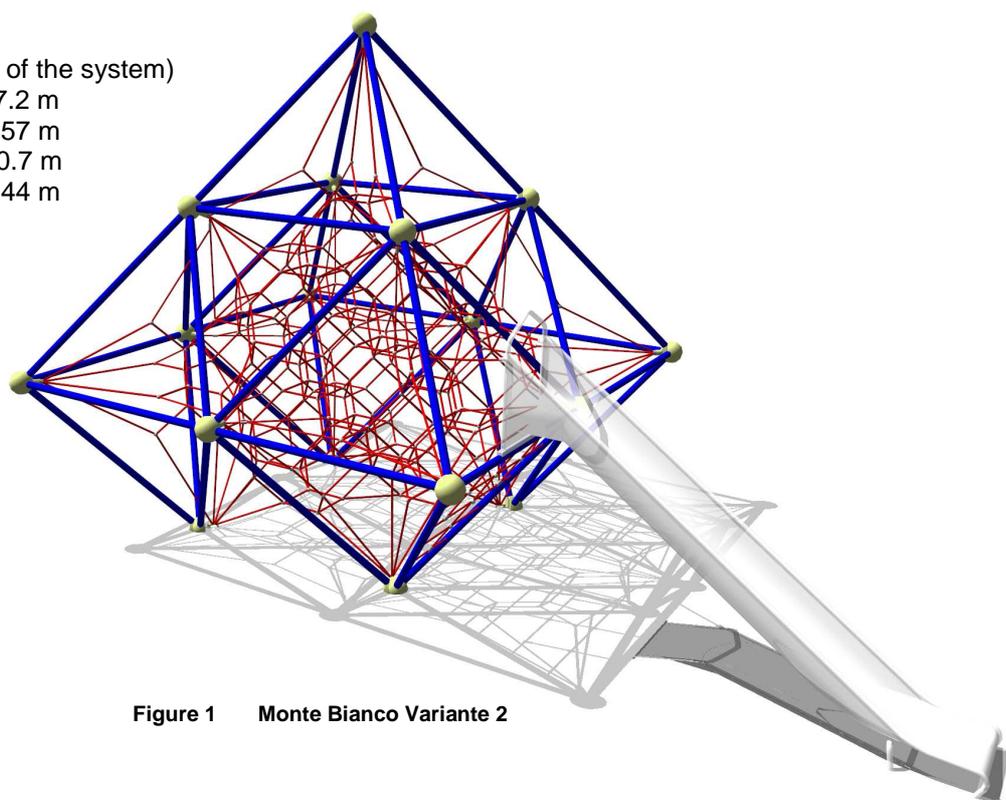


Figure 1 Monte Bianco Variante 2

## Ground quality

Please refer to EN 1176-1 for ground conditions in the play area. Sand, wood chips, gravel and synthetic safety ground coverings with HIC inspection are permitted by this Standard. We recommend a minimum thickness of 400 mm of gravel (grain size 2 – 8 mm) or sand (grain size 0.2 – 2 mm). If you use a synthetic protective surface, it must be sure that all relevant parts for the maintenance (see maintenance instruction on page 8) are every time accessibly. If necessary consult smb.

## Installation Tools

### Tools supplied:

1 off	Special socket spanner, size 32, with angled extension
1 off	Socket spanner, size 32, with extension
1 off	Socket spanner, size 30
1 off	Allen key, size 10, with extension
1 off	bit for safety screws
1 off	rope roll

### Additional tools required:

	Usual assembly tools
1 off	Double ladder, approx 4.0 m long
1 off	open jawed spanner size 32
2 off	open jawed spanner size 24 (if mounted with anchorage frame)

## Assembling with foundations

To make the foundations, the spherical connection joint **K21** and four pipes are used, from which an initial foundation framework is made **figure 2**.

**Note:** As the parts are to be used again, care must be taken when handling.

The **K21** connection joints are screwed together to form a square with the aperture facing upwards across four pipes. The concrete anchors are fixed below the connection joints. The framework is to be aligned in a **balanced** manner and **at the appropriate height**. The concrete anchors are to be of such a length that they exceed the height of the foundations and find a hold in the earth when the foundation framework is temporarily constructed (**Figure 2**). The concrete can then be poured.

**The foundation plan for the slide is point on draft plan II. Please note the details on draft plan II.**

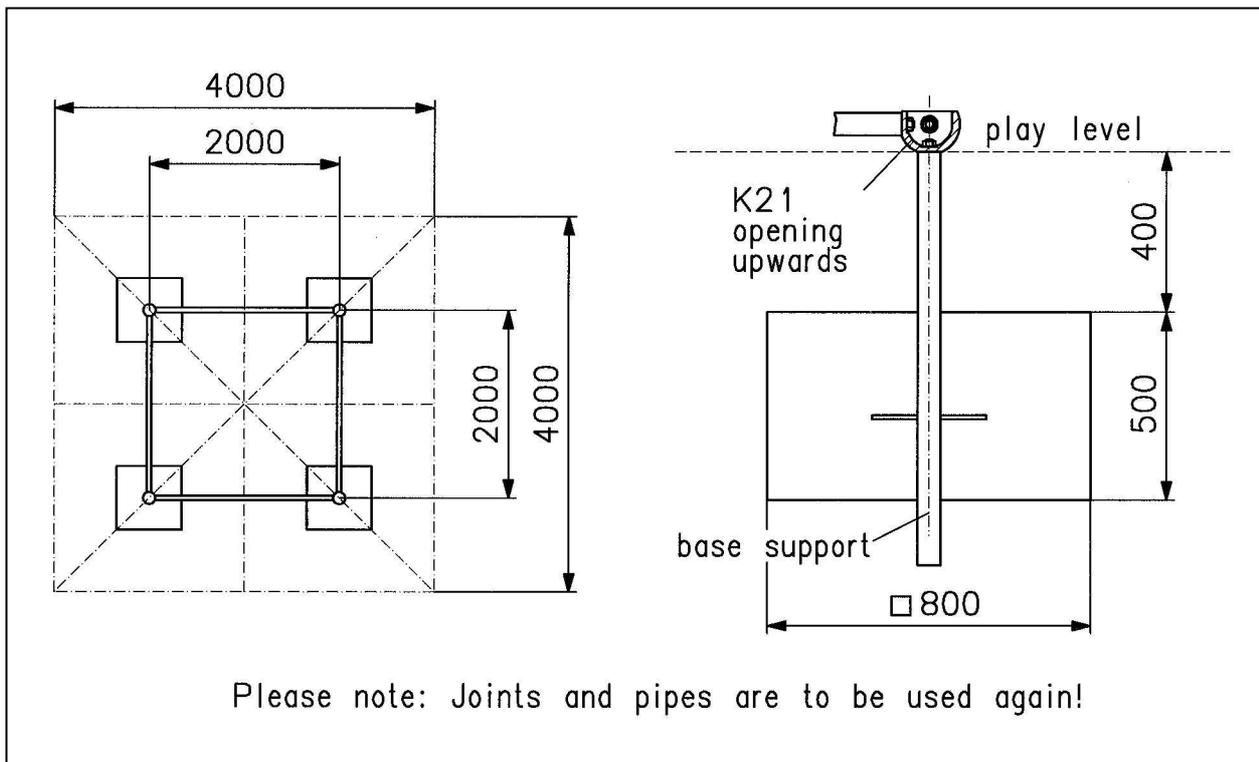


Figure 2 Arrangement of the foundations

- Minimum grade of concrete for the foundations: **C20/25 (B25)**
- Quantity of concrete required: **about 1.30 m<sup>3</sup> (foundations for basic unit)**  
**about 1.45 m<sup>3</sup> (foundations for basic unit and slide)**
- We are working on the assumption that the base is grown soil. If this is not the case, please consult us as the foundation dimensions may need to be changed.

### Assembling with an anchoring frame

Screw down the galvanised square tubular frame with the plug-in system as shown in **figure 3**. This frame must be placed in the soil at a depth of 470 mm below the play level, and must be level and square. The corner points should be packed to ensure that they do not sink when weight is placed on them. This framework ensures that the frame tubes and the hollow balls can be screwed in correctly.

**The foundation plan for the slide is point on draft plan II. Please note the details on draft plan II.**

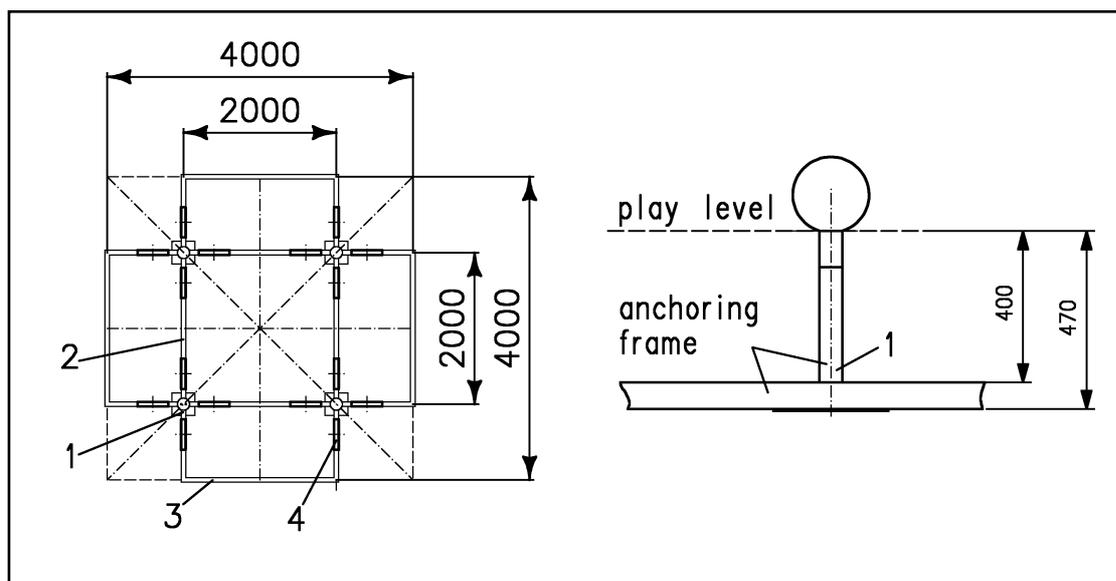


Figure 3 anchoring frame

no. 1 x4 tube anchor  
no. 2 x4  
no. 3 x4  
no. 4 x16 connecting tube

### Assembling the frame

First of all, the foundation framework (if mounted with foundations) is to be taken down and the parts are to be used again. The structural arrangement of the pipes and connection joints may be seen in **Figure 4**. **The code number which is stamped onto the hollow balls (K19, K20, K21A and K23) is always facing upwards.** The corresponding marking is to be applied to the connection joints for identification purposes.

The framework is then to be assembled up to **level 1**. **At the assembly of the tubes RH1, RS1 and RS2 the positioning of the slide is to keep in mind (figure 4). The spherical apertures face outwards, with the exception of K21A, which face inwards (fig. 6).** The screw connections (lock washer and HV nut M20, SW32) are initially to be fastened hand tight and, after completion up to **level 1**, finally tightened firmly.

Further construction now takes place, in a corresponding fashion, up to the vertex of the equipment (**level 3**). **At the assembly of the tubes RS3 and RS4 the positioning of the slide is to keep in mind (figure 4).** After the completely mounting of the frame, all the screw connections are **tightened firmly** with the supplied **socket spanner size 32**. In order to have a safe working platform for the next level, it is recommended that wooden planks are to apply onto the completed level.

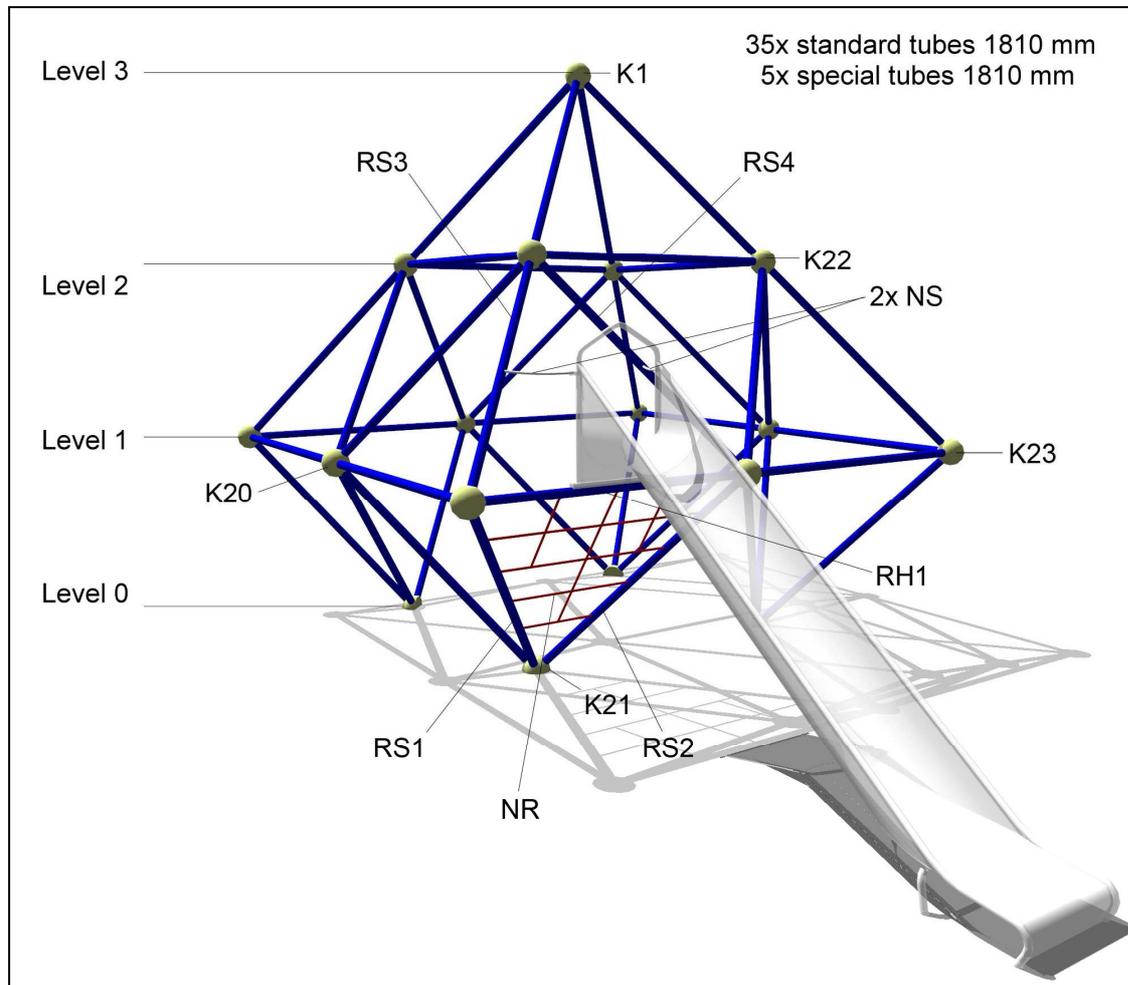


Figure 4

**Notice:**

At the assembling of the space netting on the upper hollow balls it is helpfully for you when you support the space netting from the underside. The insert of the clamping cylinder is going easier when you support the pulling with the enclosed rope.

**Assembling the space netting**

The marked vertex of the net (**K1**) is to be lifted, using the rope pulley, by means of the knotted rope as per **Figure 5** and fastened onto **connection joint K1** using the clamping nut M20, SW32. The clamping systems of the four connection joint points **K22** on **level 2** then follow. Push the clamping cylinder with the bolt M20 into the telescopic sleeve (**Figure 7**) and first of all, tighten it with the clamping nuts by only five turns to make for easier insertion into the spheres.

The four spheres **K21 (level 0)** are then connected with the eye bolts and the welded special covers. Plug the eye bolts trough the spheres **K21** and screw it with a washer and a self secure cap nut M20 SW 32 (**Figure 6**).

Now connect the tension points **K20** and **K23** at **level 1** in the same way like **K22**. Push the clamping cylinder with the bolt M20 into the telescopic sleeve (**Figure 7**) and first of all, tighten it with the clamping nuts by only five turns to make for easier insertion into the spheres.

## Tensioning the space netting

The net **begins** to be tensioned on **joint K22** on **level 2** and then takes place, via the clamping nuts, using the SW32 special socket spanner which is supplied. It must be **tensioned up to the pretensioning mark (fig. 7)**. Tension is then created on joints **K20** and **K23** on **level 1** also to the pretensioning mark. The net finally has a good **uniform strong** tension.

### Caution:

Please note, that at all clamping points **the ropes are not distorted** when you tensioning the net. If necessary hold it firm with a practical tool.

After the tensioning the clamping nuts at all joints in level 1 and 2 (**K20**, **K22** and **K23**) are to lock with the supplied locking nut M20 SW32 including the spring lock washer. **When you tightened the lock nut, you can hold up the M20 bolt with an Allen key size 10 (figure 7)**.

Finally, the hollow spheres, which are still open, are to be sealed using the specially prepared sealing covers via a mounting bracket (**Figure 7**). Please fix all the covers that our logo is readable. Thank you.

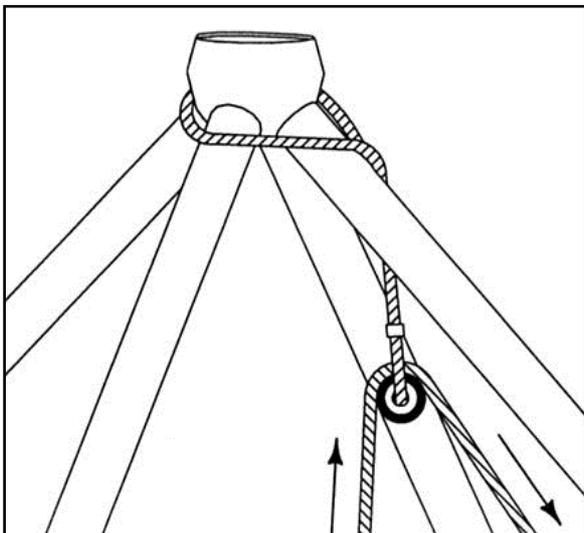


Figure 5

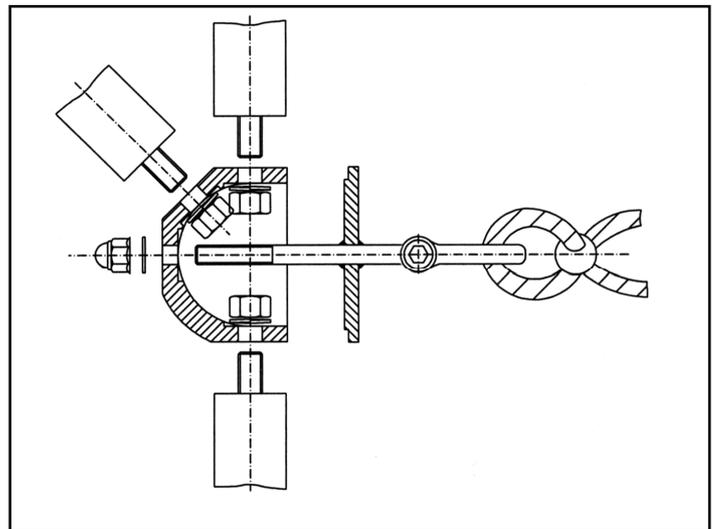


Figure 6 joint K21

## The first re-tensioning of the space netting

!!! Initial re-tensioning should be carried out after one to two weeks of use  
(reference operational inspection for more details) !!!

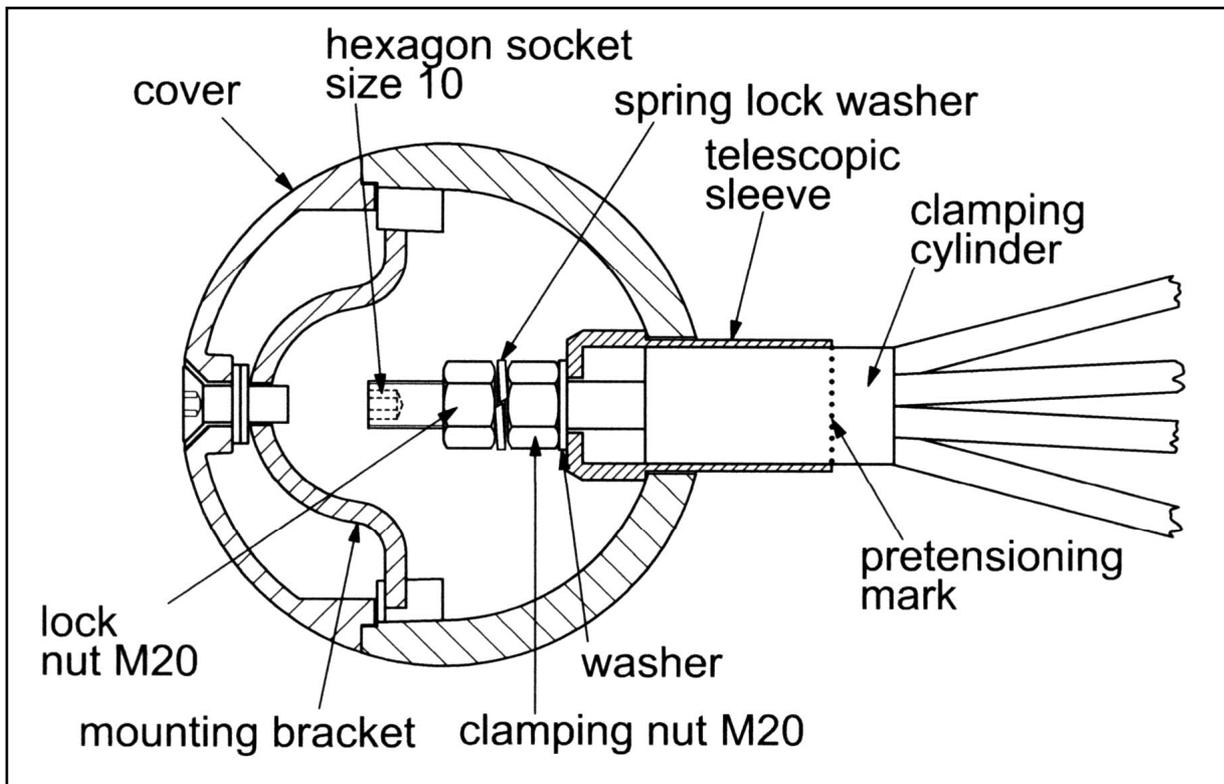


Figure 7

### Assembling of the triangle net

The **triangle nets NR (fig. 4)** should be fitted next. Insert the cable ends into the **ROWOCON® sleeves** as far as they will go and fasten them with the securing screws provided (**fig. 8 and 9**). If individual rope ends should insert only with difficulty, you can help yourself with an injection of silicon or oil in the **ROWOCON® sleeves**. In no case it is allowed to remove the end sleeve of the rope!

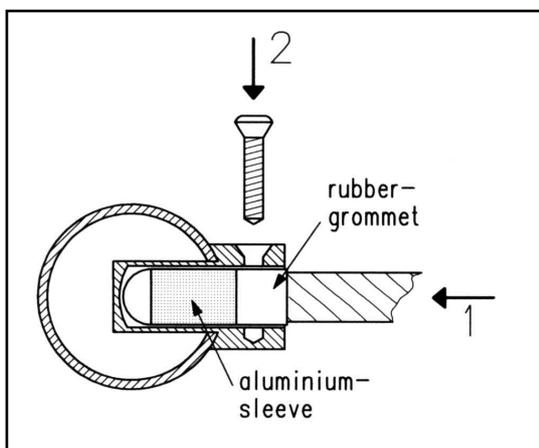


Figure 8

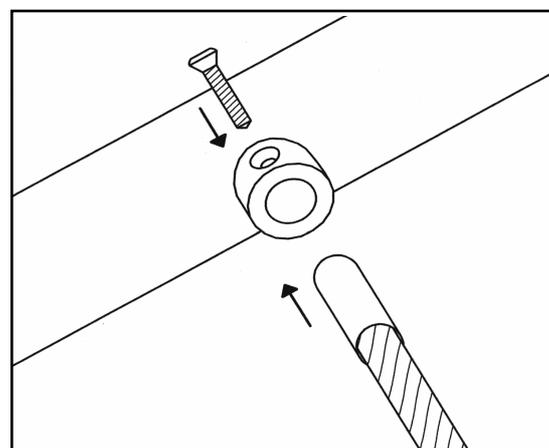


Figure 9

## Attaching the slide

### (Securing to the ground with anchor plate)

If an anchor plate is chosen for securing the slide to the ground, this should first be screwed onto the slide. Place the top of the slide on the **connection tube (RH2 / see figure 4)** and secure it there.

The installation depth of the anchor plate is **310 mm (bottom edge anchor plate to play level, see draft plan II)**. Additionally the height of the play level is marked on the slide. The slide should be lined up accordingly on the play level.

### (Securing to the ground with foundation)

At first the concrete foundations are to be created like the information on **draft plan II**. The concrete quality is **C20/25 (B25)**. After the concrete has set (approx. 5 days) the slide would be mounted. Place the top of the slide on the **connection tube (RH2 / see figure 4)** and secure it there. At the foundation area of the slide are two boreholes. **Mark this points on the foundation**. Remove the slide and drill at this points **two holes with a diameter of 18 mm and a depth of 80 mm**. Set in the attached dowels and fix the slide.

The area at the bottom end of the slide should then be filled with sand or gravel.

At next the two safety ropes (**NS**) for the slide can be fitted.

### The first re-tensioning of the space netting

**!!! Initial re-tensioning should be carried out after one to two weeks of use (reference operational inspection for more details) !!!**

## Maintenance instructions EN 1176-1

### Routine visual inspection

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

The space net and the triangle net is to be checked for damage, particularly for line breaks. Care must be taken to ensure that the hollow balls are sealed. The slide should be examined for dents or other damage.

### Operational inspection (every 6 months)

- The first retensioning of the equipment must be carried out after it has been used for between 1 and 2 weeks. Retensioning is done using the clamping nuts M20 which are situated in the hollow spheres of the level 1 and 2 (**K19, K20 and K23**). After removing the cover, using a size 10 Allen key, the locking nut M20 SW32 is to loosen at first. The retensioning is carried out on clamping nut SW 32 **beyond the pretensioning mark**. All connection joints of levels 1 and 2 should be retensioned in a uniform fashion. After being tensioned, lock the clamping nuts with the locking nuts which you are removed beforehand (**Figure 7**). **Please note the right position of the spring lock washer between the two nuts. When you tightened the lock nut, you can hold up the M20 bolt with an Allen key size 10 (figure 7)**. Now the hollow spheres are locked with the prepared ball covers via the retaining bolt in the cover. Please fix all the covers that our logo is readable. Thank you.

#### **Caution:**

Please note, that at all clamping points **the ropes are not distorted** when you tensioning the net. If necessary hold it firm with a practical tool. (**figure 7**).

- Retensioning must be carried out once or twice again until the lengths of rope are gone.

### Main inspection (every 12 months)

#### in addition to the visual and operational inspection:

- Check the anchor pipes for signs of excessive corrosion, especially at the transition of the concrete foundation and the anchor pipe.
- Check to see that the pipe connections are sealed tightly in the hollow spheres. If a screwed connection has become loose, it is to be tightened inside the sphere.
- Check the clamping systems for damage.
- Check that the slide supports are firmly anchored, especially at the bottom of the slide.