

# Technical Information

Dufourspitze

Page 1

Installations Instructions EN 1176-1

Maintenance Instructions EN 1176-1



09.09.14

## General

The operations described are to be carried out by a specialist (min. 3 persons).

The framework pyramid is fixed on a hot-dip galvanised square tubular frame.

## Dimensions

Effective space	see draft plan I (figure 2)
Drop	1.80 m
Minimum space	see draft plan I (figure 2)
Height	4.44 m

## Age group

5 years upwards

## Number of users

38 children

## Maximum free drop height

1.94 m

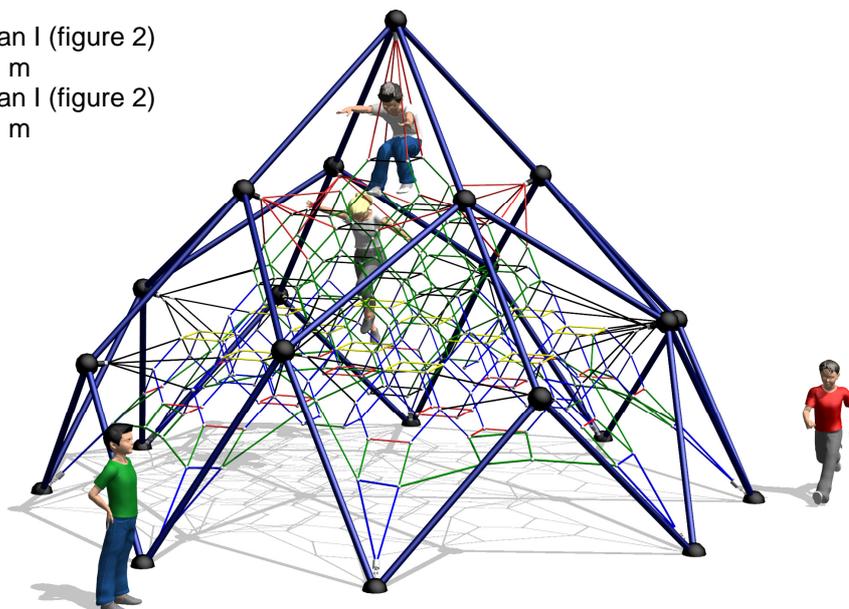


Figure 1 Dufourspitze

## Ground quality

With regard to the type of ground in the play area, please refer to EN 1176-1. According to this, sand, wood chips, gravel and HIC tested synthetic protective coatings are allowed. We recommend a min. 400 mm layer of gravel (grain size 2 – 8 mm) or sand (grain size 0.2 - 2 mm). If you use a synthetic protective surfaces, we recommend for the slide outlet area sand or gravel. Also it must be sure that all relevant parts for the maintenance (see maintenance instruction on page 6) are every time accessibly. If necessary consult smb.

## Assembly tools

### Tools supplied:

- 1 size 32 special socket spanner with angled extension
- 1 size 32 socket spanner with extension
- 1 size 30 socket spanner
- 1 size 10 Allen key with extension
- 1 rope roll

### Additional tools required:

- 2 size 24 open-jawed spanners
- 1 size 30 open-jawed spanners
- 1 double ladder, approx. 4 m long
- 1 double ladder, approx. 2.5 m long
- usual assembly tools

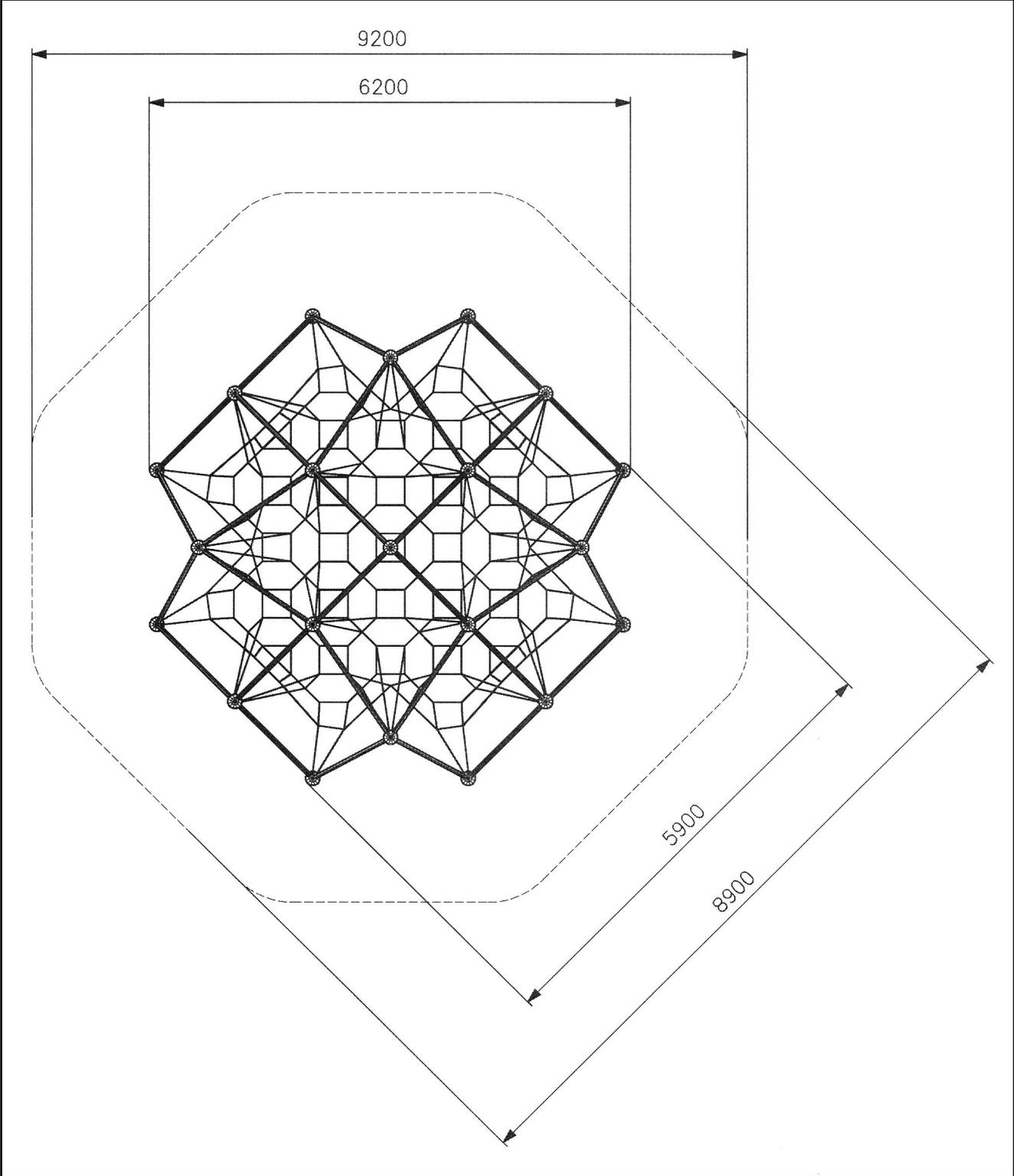


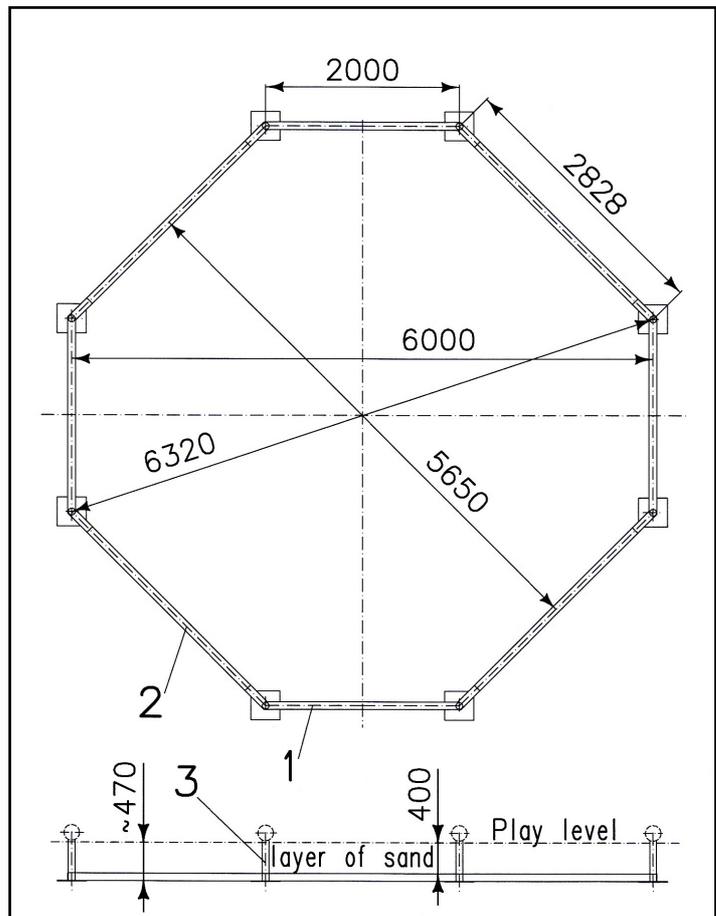
Figure 2 Draft plan I

### Assembling the 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 (**figure 3**), and must be level and square.

This framework ensures that the frame tubes and the hollow balls can be screwed in correctly.



- 1 Plug-in frame Part 1
- 2 Plug-in frame Part 2
- 3 Tube anchor

Figure 3

Anchoring frame

### Assembling the frame

One approx. 2.5 m long double ladder and one approx. 4 m long double ladder will be required for assembly. The arrangement of the frame tubes and ball joints is shown in **figure 4** and **figure 5**. The reference number printed on the joints (**K2 – K6**) **always** points to the top of the frame.

The screw connections (nut M 20 and retaining ring) should initially be tightened normally.

After completing assembly of the frame, all the nuts should be **tightened as firmly as possible** with the **extended** socket spanner size 32.

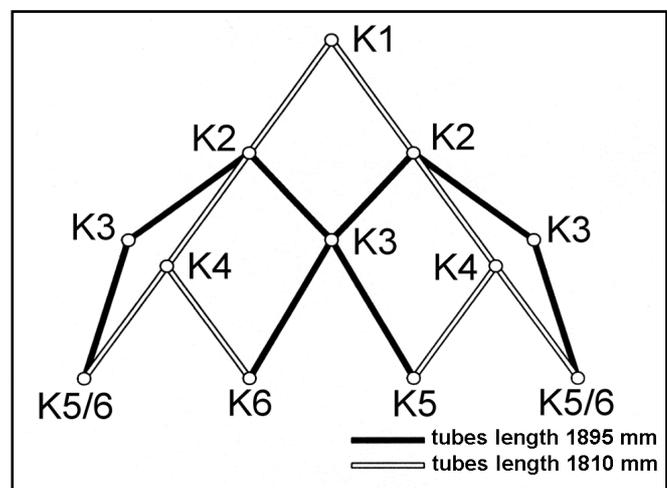


Figure 4

Side view

## Assembling and tightening the space netting

### 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.

The top of the net, which is marked, should be raised up as shown in **figure 6** via the rope pulley using the attached rope and assembled using the nut M 20 size 32.

The four **corner points K2**, marked at the space net, should now be raised to the **hollow balls K2** using the attached assembly rope and fitted to the tensioning nut. Push the clamping cylinder with the bolt M20 into the telescopic sleeve (**figure 8**) and first of all, tighten it with the clamping nut N20 size 32 by only five turns to make for easier insertion into the spheres. The space netting should now be completely removed from the crate.

Preassembly of the space netting is continued on **joints K5** and **K6** (**figure 7**), then on **joint K3** and finally on **joints K4** (**K3** and **K4** are mounted like **K2**, **figure 8**). The straining screws should initially only be tightened about 5 threads by the tensioning nuts.

Tightening begins at **joints K5** and **K6** and is carried out with the tensioning nuts M20 size 30. At this point the straining screws should be tightened as far as possible, so that the lock nuts previously set in the works (**figure 7**) come into firm contact with the joints. Further tightening is carried out on **joints K2**, **K3** and **K4**. At this points tightening must be carried out with the special socket spanner size 32 which is supplied. It must be **tensioned up to the pretensioning mark**. The net finally has a good **uniform strong** tension.

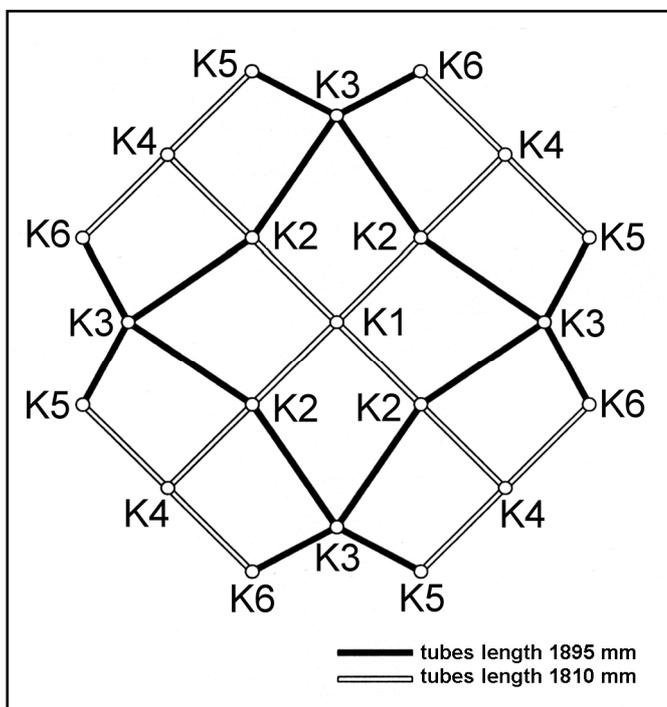


Figure 5  
Top view

### 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 8**).

After the tensioning the clamping nuts at all joints **K2**, **K3** and **K4** are to lock with the supplied locking nut M20 size 32 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 8**).

Now the lock nuts should be checked at the joint points **K5** and **K6** are firmly anchored (**figure 7**). After that, all joints **K1**, **K2**, **K3**, **K4**, **K5** and **K6** can be locked with the prepared ball covers via the retaining bracket in the cover (**figure 8**). Please fix all the covers that our logo is on the top. Thank you.

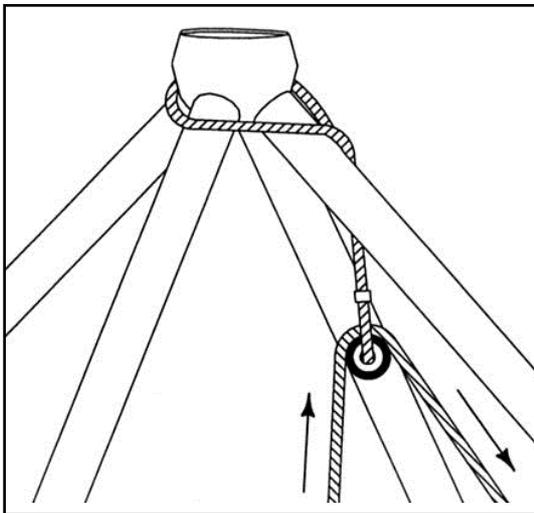


Figure 6

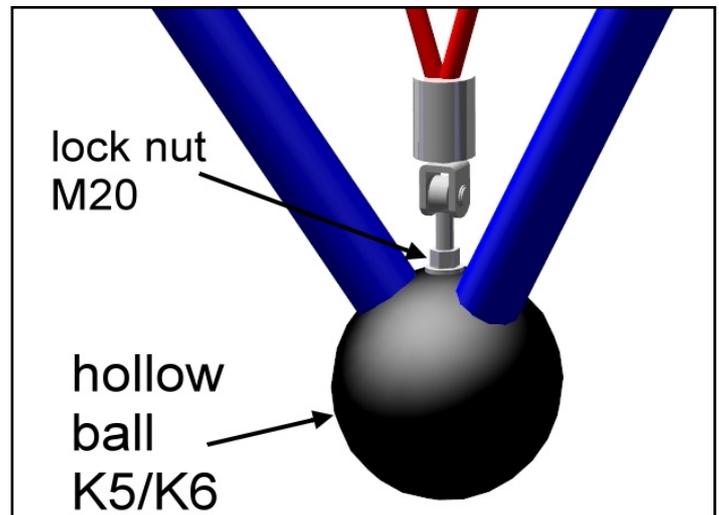


Figure 7  
Hollow ball with lock nut

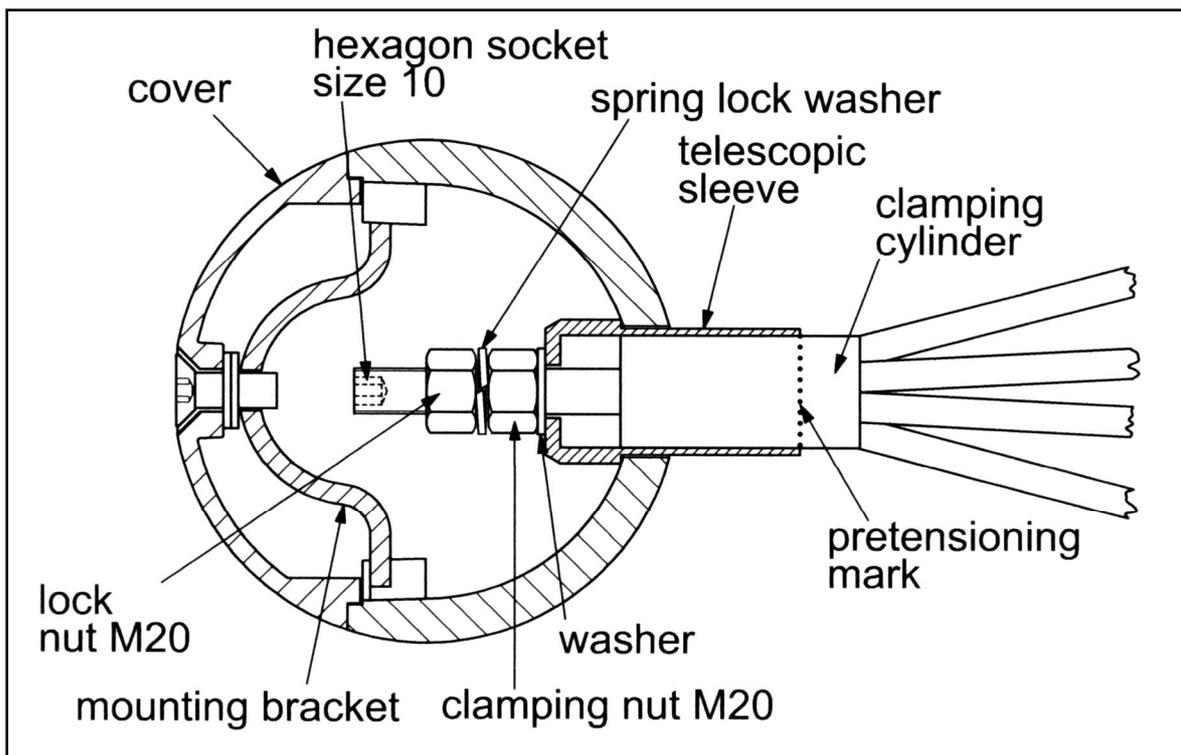


Figure 8

### 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

### Visual routine inspection

Frequency will be based on local conditions (high/low use, vandalism, air pollution, effects of weather).

The space netting should be examined for damage, especially broken strands. Ensure that all the hollow balls are sealed.

### Operational inspection (twice-yearly)

- The first re-tensioning of the equipment must be carried out after it has been used for between 1 and 2 weeks. Re-tensioning is done using the clamping nuts M20 which are situated in the hollow spheres (**K5** and **K6**). After removing the cover, using a size 10 Allen key, a socket spanner is used to increase the tension on the tensioning nut size 30. The lock nut size 30, which is on the outside of the hollow ball (**figure 7**), should first be loosened. After the re-tensioning the lock nuts are to be tightened. The further re-tensioning is carried out on the hollow spheres **K2**, **K3** and **K4**. At this points re-tensioning must be carried out with the special socket spanner size 32 which is supplied. The lock nut size 32 (**figure 8**) should first be loosened. It must be **tensioned beyond the pretensioning mark**. After the re-tensioning the clamping nuts at all joints **K2**, **K3** and **K4** are to lock with the supplied locking nut M20 size 32. **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 8**). Now the lock nuts should be checked at the joint points **K5** and **K6** are firmly anchored (**figure 7**). After that, joints **K2**, **K3**, **K4**, **K5** and **K6** can be locked with the prepared ball covers via the retaining bolt in the cover. Please fix all the covers that our logo is on the top. Thank you.

#### Caution:

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

- Further re-tensioning will be necessary once or twice more until the rope elasticity is exhausted.

### Main inspection (annual)

**In addition to the checks in the visual and operational inspection:**

- Check the anchor frame for excessive corrosion (every two years). At the corners the anchor frame should be exposed to the installation depth and checked for corrosion.
- Check that the tube screw fittings have a firm, crack-free connection to the hollow balls. If a screw fitting is loosened, it should be re-tightened inside the ball.
- Check that the lock nuts (**figure 7**) fit firmly on the hollow balls **K5** and **K6**.
- Check the clamping system fore damage.