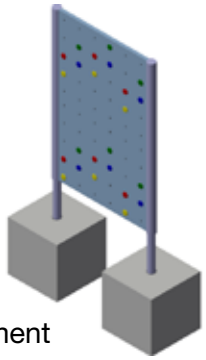
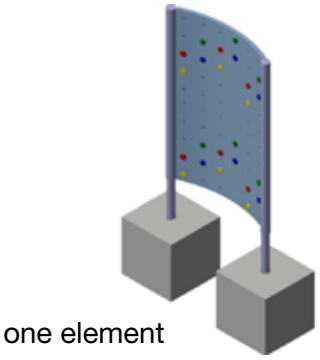
Boulder Wall made of Polymer Concrete Type I

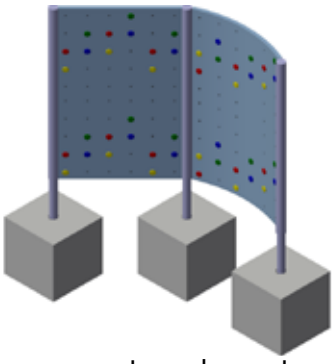
Boulder Wall made of Polymer Concrete Type I



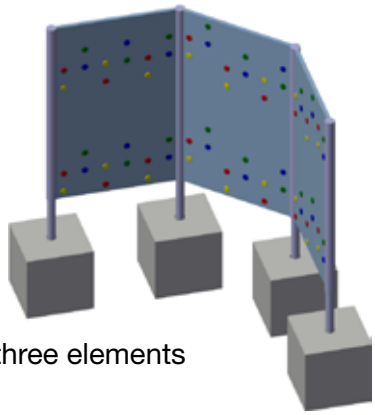
one element



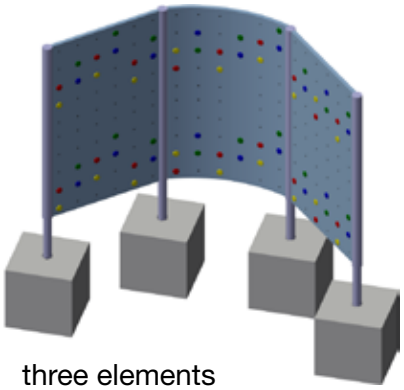
one element



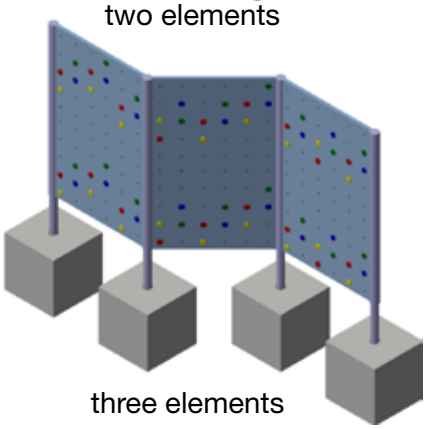
two elements



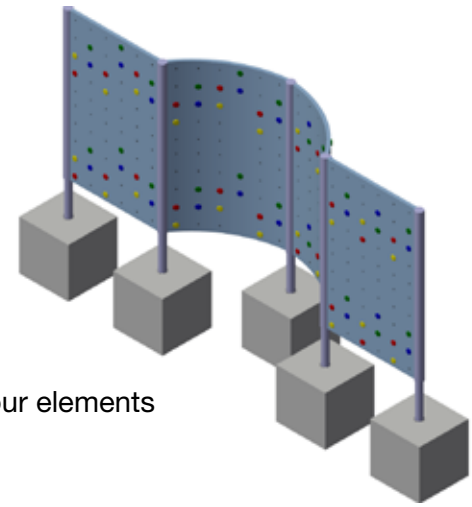
three elements



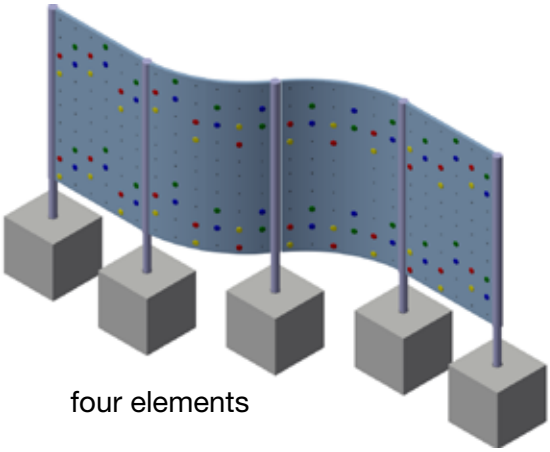
three elements



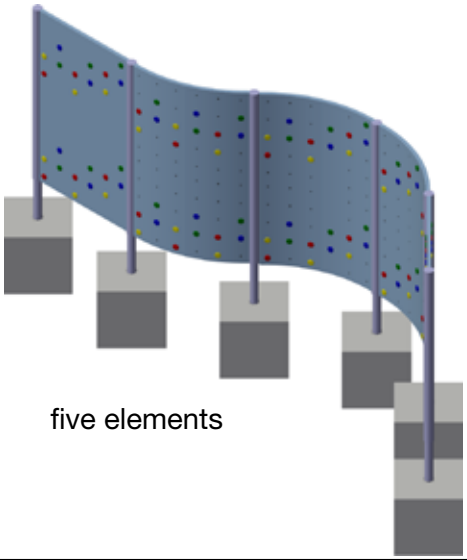
three elements



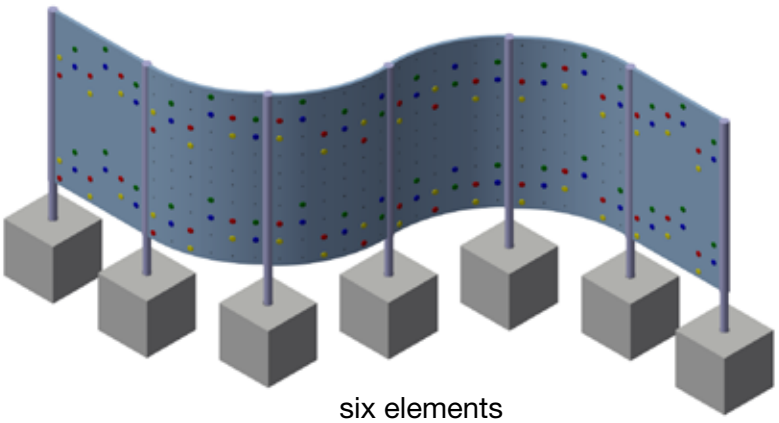
four elements



four elements



five elements



six elements

Foundations Assembly and Maintenance Instruction

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

CERTIFICATE

No. Z1A 08 11 11575 010

Factory(ies): 11575

Certification Mark:

Product: **Climbing equipment**

Model(s): **Bouldering Wall Type I - slate structure**
Bouldering wall Typ II - rock structure
Bouldering wall Typ III - wall-mounted

Parameters:

max. height:	3,0 m above the ground
plates height:	1200 mm
plates width:	1450 mm (type I, II), 1250 mm (type III)
posts:	Ø 101,6 x 3,6 mm, S 235 galvanized
frame:	2355 x 1230 mm, S 235 galvanized
material:	Polymer concrete 50 mm (type I, II) Polymer concrete 30 mm (type III)

Tested according to: DIN EN 1176-1:2008

The product meets the requirements of the German Equipment and Product Safety Act. The Certification marks shown above can be affixed on the product. The certification marks must not be altered in any way. The use of the GS-Mark is permitted until the listed date, the use of the TÜV-Mark is unlimited, unless it is cancelled. See also notes overleaf.

Test report no.: 71344546

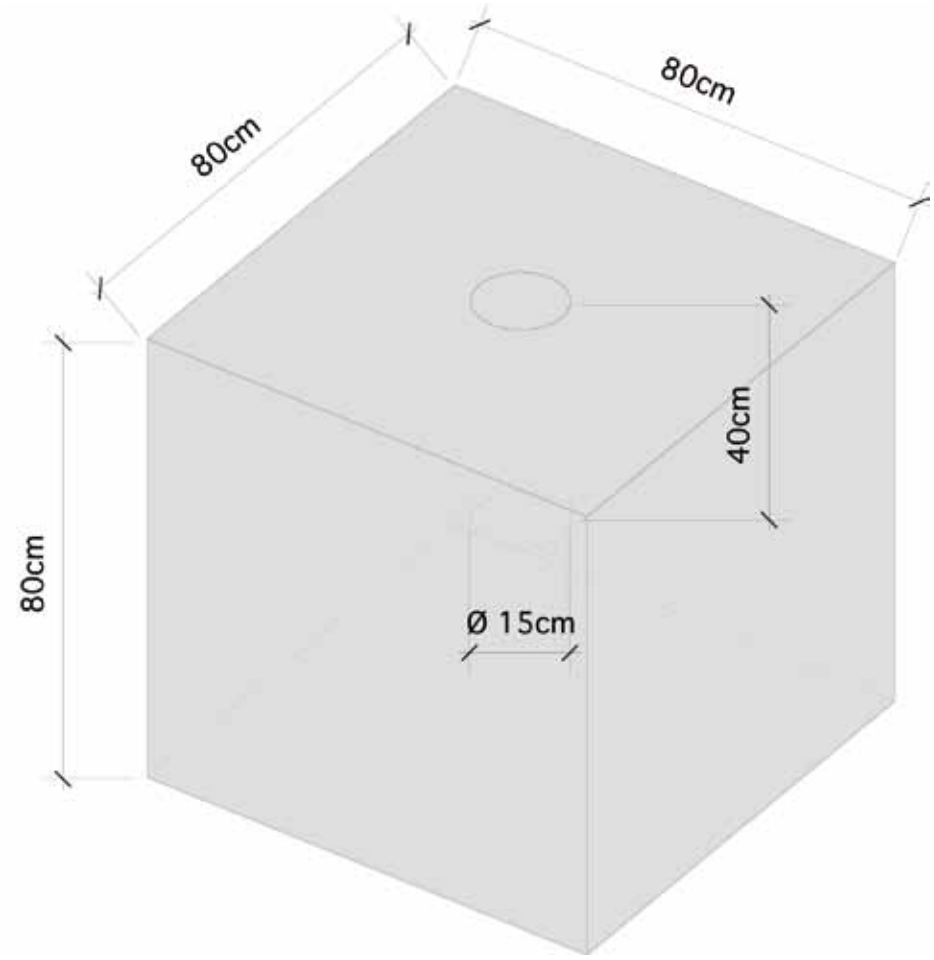
GS-Mark valid until: 2013-11-05

Date, 2008-11-05

226315

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstrasse 65 · 80339 München · Germany

Boulder Wall made of Polymer Concrete Type I



On site foundations 80 x 80 x 80 cm with internal slot for the pillars
Ø 15 cm x L = 40 cm in the foundations

Therefore please use the pre-supplied plastic hollow sleeve (Ø 15cm).

Concrete which is at least with C20/25 classification is to be used.

Do not use the supplied steel tube

For the foundations distance always use slot middle shaft –
slot middle shaft 153 cm

Foundations

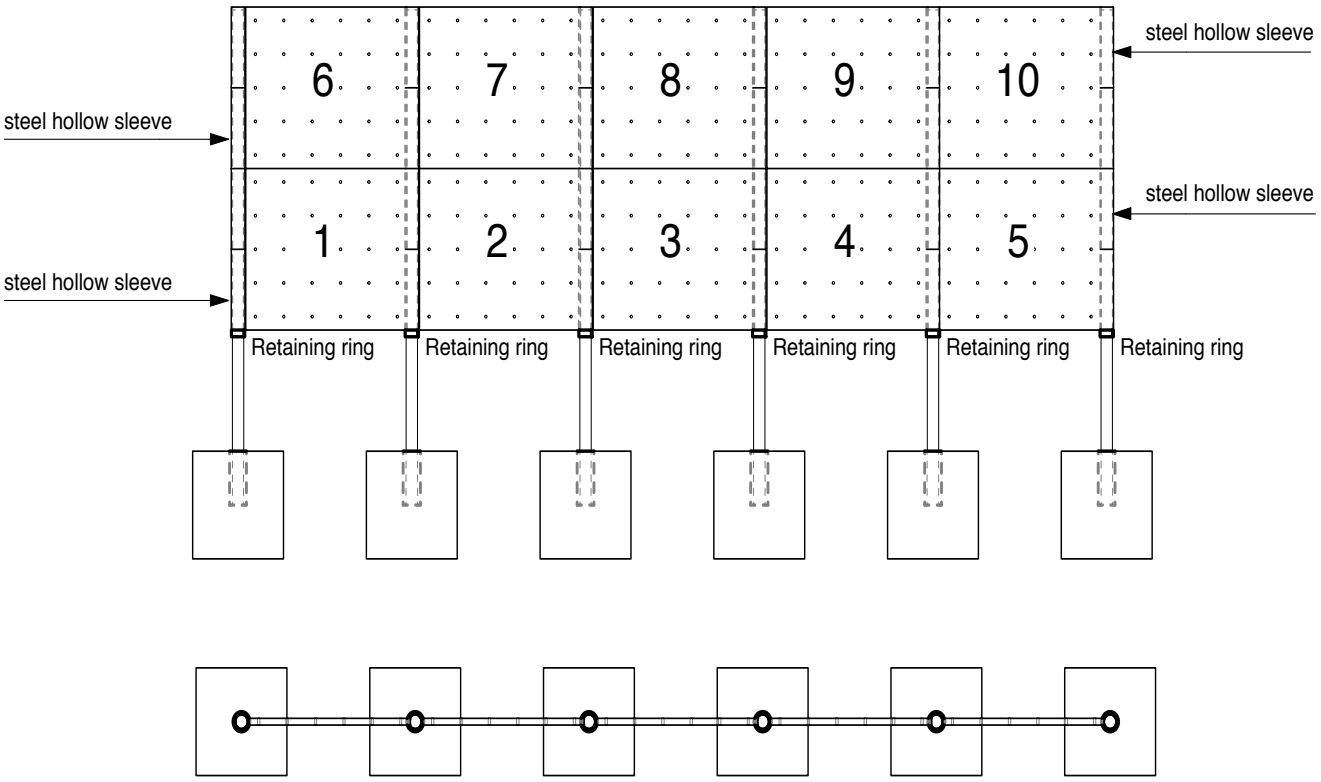
Boulder Wall made of Polymer Concrete Type I

Assembly

Boulder Wall made of Polymer Concrete Type I

Assembly

Boulder Wall made of Polymer Concrete Type I



Delivery contents

Climbing panels with handles
Steel supports
1 Retaining ring per steel support
1 M10 x 110 carriage bolt with sleeve nut per steel support
4 steel hollow sleeves
2 Aluminium fixing pins per element
1 Plastic cover per steel support
White finned inserts
Silicone
Sand, resin, hardener
Assembling Aid (thread rods, eye nuts, carabiners, loops)

Assembly Diagram

Boulder Wall made of Polymer Concrete Type I

ASSEMBLY INSTRUCTIONS

When delivery takes place, the foundations at the construction site are to have already been created with embedded ductwork (plastic pipe Ø 150 mm) as according to the foundation plan.

ATTENTION: Due to assembling the bouldering wall with heavy equipment the **fall protection** has to be installed **AFTER the assembly.**

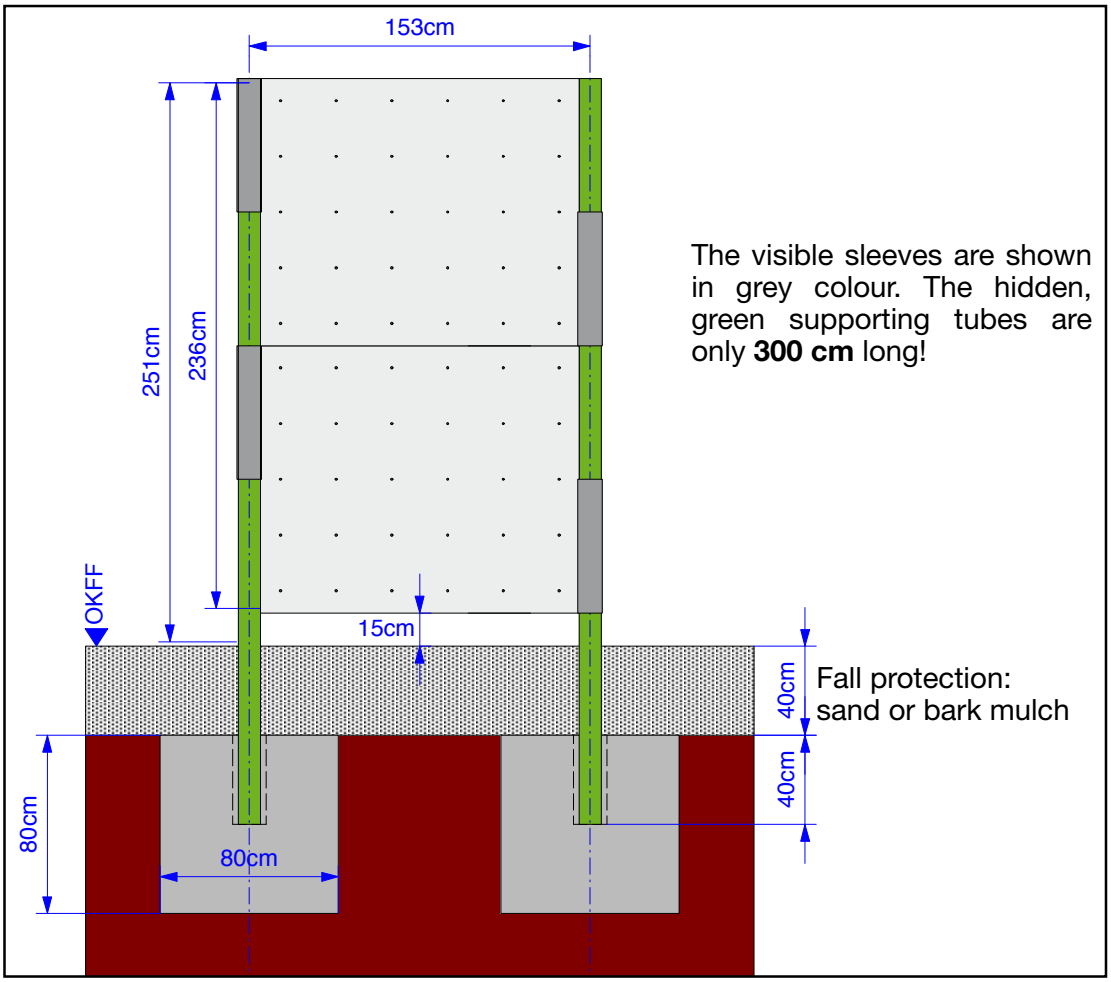
- Inspect the dimensions as according to the foundation plan:
  a) The distance between centre slot - centre slot = 153 cm
  b) Depth slot: 40 cm. The foundations are to be changed in the event that the depth does not exactly measure 40 cm.
- In the event that changes are necessary, then concrete which is at least in the C20/25 classification is to be used.
- Insert the 3 m long supporting tube into the foundation. The open end is facing the ground.
- Drill a borehole into the first supporting tube measuring Ø13,5 mm for the M10x110 screw in order to assemble the retaining rings. The measurement from the top edge of the foundation - centre hole is subject to your choosen fall protection.
- By using an **exactly** horizontally tensioned cord from the centre borehole, calculate the positions of the borehole in the other supporting tubes and drill the holes.
- Position all of the retaining rings onto the supporting tubes and fasten with the M10 x 110 screws.
- Align all of the supporting tubes and firmly secure them with timber wedges.
- The assembly of the climbing panels is to take place from left to right. The lower row is to be assembled first and then upper row is to be assembled afterwards. The climbing panels are numbered on their top edges. The panels are to be assembled in such a way that all numbers can be seen from one side.
- Firstly, a steel hollow sleeve is to be positioned on the left supporting tube.
- Assemble the lower row of the climbing panels starting with number 1. Put the 2 supplied thread rods through the clearance hole of the element and screw the ring nuts onto them. Insert the loops with the carabiners, lift the panels onto the supports and complete the assembly of the lower row.
- Finally position a steel hollow sleeve onto the right supporting tube.
- Insert the aluminium fixing pins (6 mm) into the boreholes at the top edges of the lower elements.
- In order to close a possible light gap between lower and upper element, fix joint sealing tape onto the top edges of the lower elements.
- Assemble the upper row in the same way.
- **GLUE** the 12mm white finned inserts with silicone into the clearance holes.
- Any possible splits or offsetting of the panels are to be rectified by re-aligning the panels.
- Depending on delivery: either stir the sand and resin to a mixture which displays a similar consistency to the concrete. Then add approximately 2% hardener calculated from the RESIN proportion. Secure the supports into the foundations with the mixture and remove the wedges. The processing time amounts to approximately 20 - 30 minutes and the mixture will then begin to harden. Or: stir 1 bag „Quellvergussmoertel“ with approx. 3,25 4,25 ltr. of clean water at least 3 mins. Secure the supports into the foundations with the mixture and remove the wedges. 1 bag lasts for approx. 3 supports.
- Glue a PVC-cover on top of the supporting tubes with SIKA-Flex.
- Glue the two hollow sleeves with SIKA-Flex to the concrete slabs.
- Seal the joints between the panels and the steel housing with SIKA-Flex.
- Block the Bouldering Wall for 24 hrs. until total curing of the foundations.

For the assembly work, you will require the following equipment:

- Forklift truck, wheel loader or similar min. lift height 4,50m
- Spanner 17mm
- Spirit level
- Drilling machine with 13,5 mm drill
- Silicone sealant gun
- Timber wedges
- Trowel
- Mixing machine

Assembly Instructions

Boulder Wall made of Polymer Concrete Type I



The visible sleeves are shown in grey colour. The hidden, green supporting tubes are only **300 cm** long!

Fall protection: sand or bark mulch

Table F.1 — Materials in dependence of permissible free heights of fall

No.	Material[a]	Description	Minimum layer thicknesses[b] mm	Maximum height of fall mm
1	concrete/stone			≤ 600
2	bituminous surfacing			≤ 600
3	topsoil			≤ 1 000[d]
4	turf			≤ 1 500
5	bark	20 to 80 mm grain size broken bark of conifers	200	≤ 2 000
			300	≤ 3 000
6	wood chips	5 to 30 mm grain size mechanically broken wood (no wood based materials) without bark and leaf components	200	≤ 2 000
			300	≤ 3 000
7	sand [c]	0,2 to 2 mm grain size	200	≤ 2 000
			300	≤ 3 000
8	gravel [c]	2 to 8 mm grain size	200	≤ 2 000
			300	≤ 3 000
9	Other materials or other thicknesses	as tested to HIC (see EN 1177)		Critical fall height as tested

[a] Materials properly prepared for use in children's playgrounds

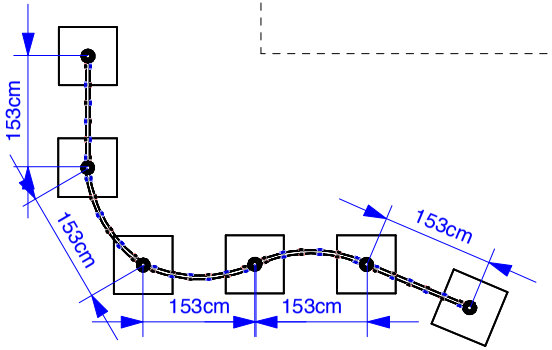
[b] For loose particulate material, add 100 mm to the minimum depth to compensate for displacement (see 4.2.8.5.1)

[c] No silty or clay particles. Grain size can be identified by use of a sieve test, such as EN 933-1

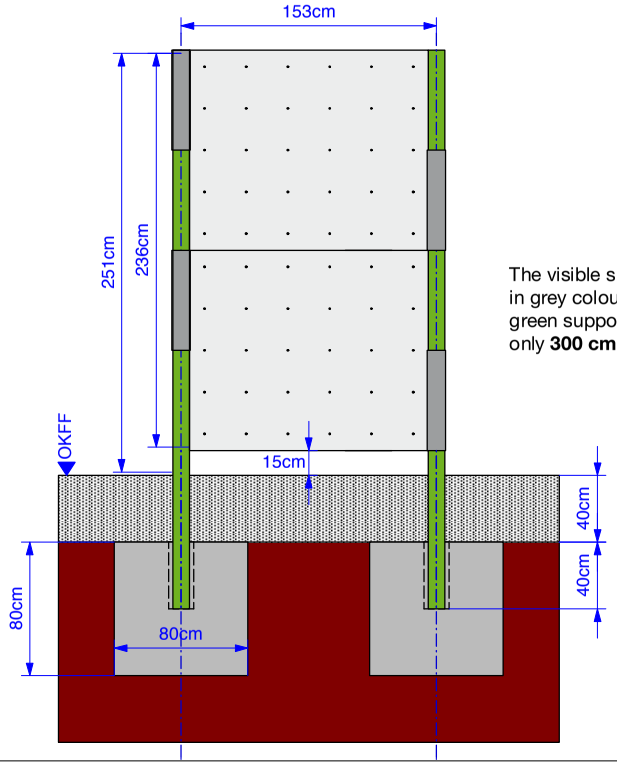
[d] See note 1 in 4.2.8.5.2

ATTENTION: Due to assembling the bouldering wall with heavy equipment the **fall protection** has to be installed **AFTER the assembly.**

Fall Protection

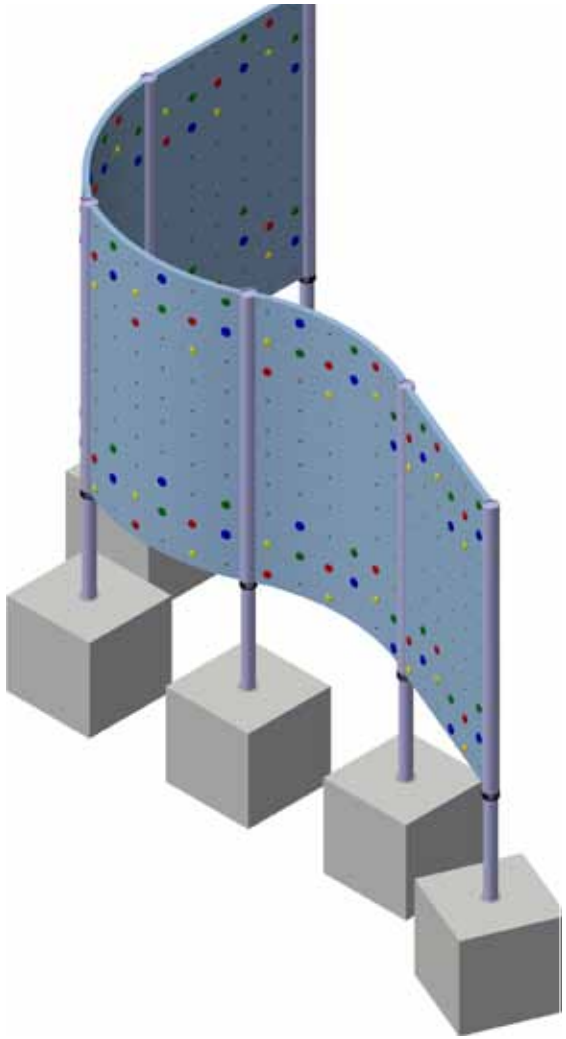


Circumferential fall safety area 250 cm
Skale 1 : 100

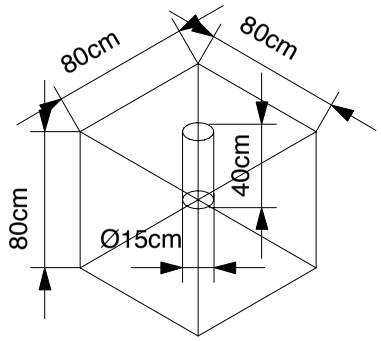


The visible sleeves are shown in grey colour. The hidden, green supporting tubes are only **300 cm** long!

Fall protection: sand or bark mulch



On site foundations 80 x 80 x 80 cm with internal slot for the pillars Ø 15 cm x L = 40 cm in the foundations. Therefore please use the pre-supplied plastic hollow sleeve (Ø 15cm). Concrete which is at least with C20/25 classification is to be used.
Do not use the supplied steel tube.
For the foundations distance always use slot middle shaft – slot middle shaft 153 cm.



Bouldering Wall exemplary Type I

Article Number	
Scale	1 : 50
Date	15. April 2010
Name	

Boulder Wall made of Polymer Concrete Type I

MAINTENANCE INSTRUCTIONS (according to EN 1176-7)

Our Bouldering Wall is almost maintenance free. Nevertheless EN 1176-7 „Playground Equipment“ forces every producer / retailer to provide the buyers with the following maintenance instructions.

All children‘s playground equipment requires regular inspections and maintenance works. This applies in particular to all those units which are mounted outdoors (throughout the whole year).

The long life of the products can be guaranteed only if you provide regular maintenance and service. This is the best and only way to permanently maintain the play value for your children and the safety.

You should make sure that experts carry out all maintenance and service works. Inexpert inspections or repairs may endanger the safety of your children!

All damages and defects have to be eliminated immediately in order to guarantee the safety and functional reliability of the Bouldering Wall.

Access to the playground equipment has to be denied in the following cases:
- The equipment has not been fully or safely installed.
- The shock-absorbing surface has not been fully installed.
- The safety of operation cannot be guaranteed by maintenance works.

Visual Routine Inspection
We strongly recommend the daily inspection of heavily used or high-vandal-risk playgrounds. Daily inspections may also become necessary in case of playgrounds that are close to the coast or located in highly air-polluted areas, or which have already been in service for a certain period of time.

- Check the Bouldering Wall for visible damages and loose parts.
- Do you identify sharp edges, broken or missing parts?
- Are the foundations visible?
- Pay particular attention to the absence of pointed objects within the area of impact (make sure that there are no glass splinters or similar!). The flooring of the impact zone (e.g. sand, pebbles, bark mulch, fall protection tiles) must be absolutely intact and have the correct height.
- Have all climbing handles been screwed tightly? Loose handles need to be tightened immediately. Unused fixing points on the climbing wall MUST be closed.

Operational Inspection:
Inspections once every 6 months.

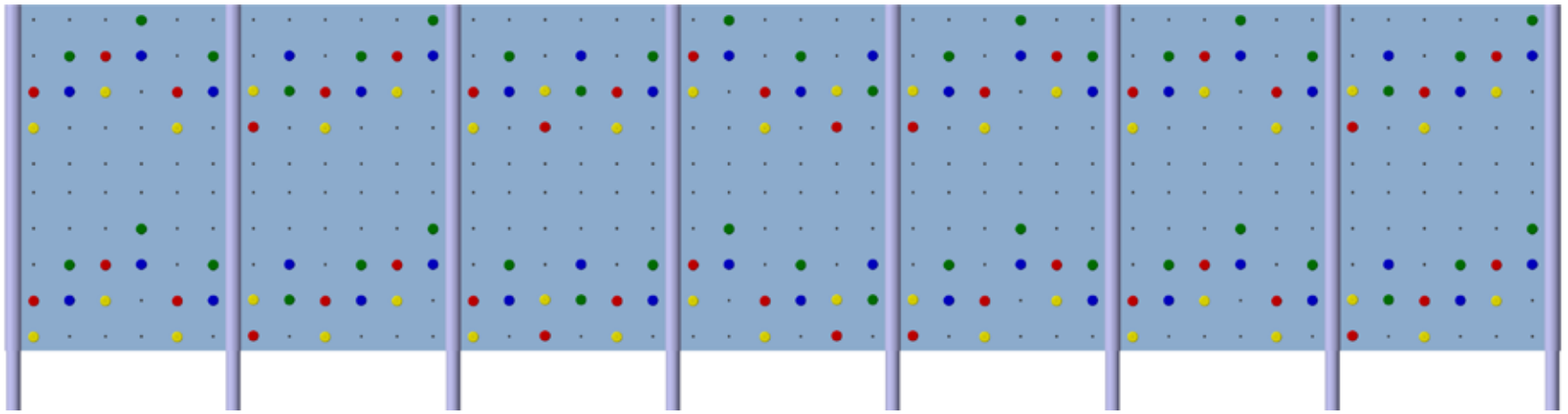
- Are all metal parts well connected and not worn down? The wall thickness/corrosion on the inside of pipes can be verified with the following test procedure:
- Electromagnetic test procedures such as eddy current or magnetic leakage flux measurement
- Ultrasound
- Are all screwed connections and bolted joints well fit? If not, please tighten them.

Major Annual Inspection:
You should carry out the „Major Annual Inspection” after the winter or at least after 12 months.

- Are all foundations okay and the equipment well anchored?
- The posts are of zinc-coated steel. Please check whether particular conditions (e.g. salt water, electrolytic corrosion) or anything else (e.g. vandalism) have caused pitting or a weakening of the posts. The instable posts have to be repaired by an expert, or be replaced.

Maintenance Instructions

Grip Routes



The side clearance from handle to handle on a colour-coordinated climbing route is not to exceed 50cm; difference in height: 25cm.

Difference in height between the foot grip and handgrip between 125cm and 175cm; no side offsetting.

Climbing routes:
- easy: use all of the grips
- medium: only use 2 grip colours
- difficult: only use 1 grip colour

12 grips are required per board and side. (48 grips per element).

Boulder Wall made of Polymer Concrete Type I