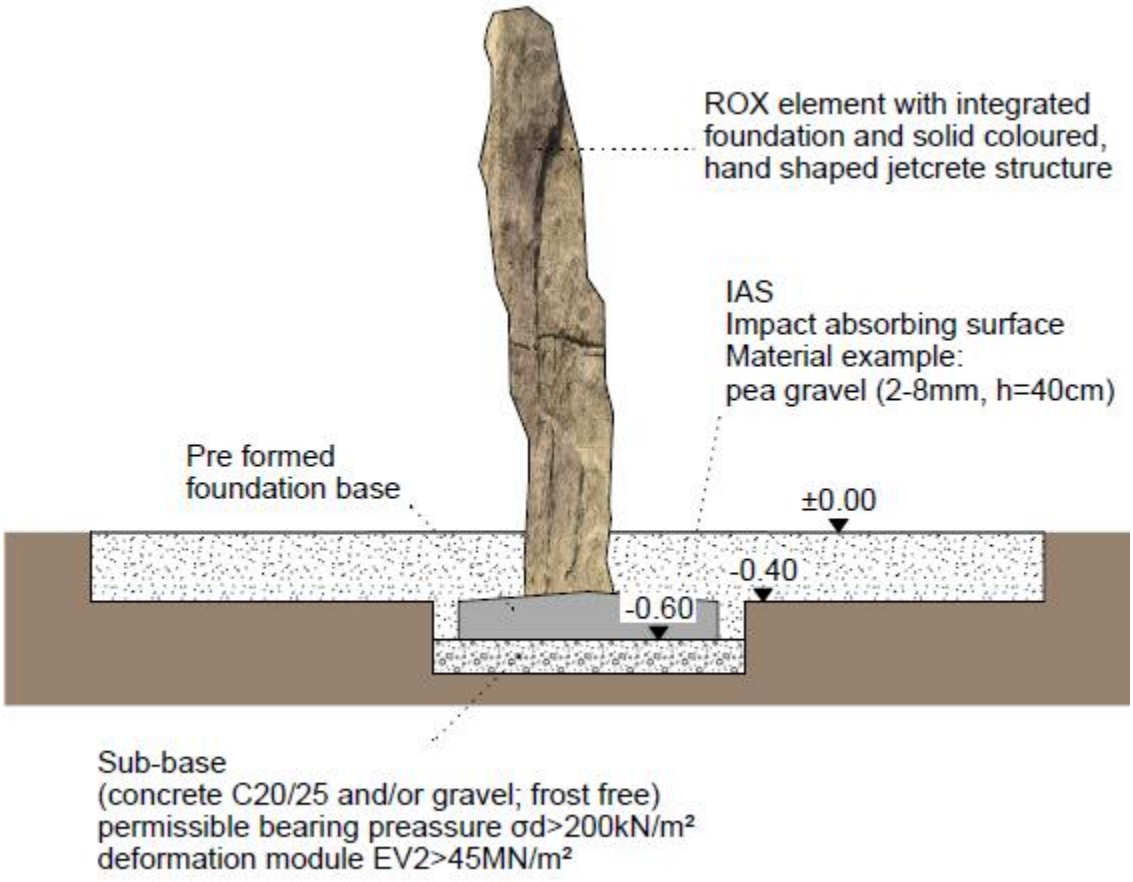
General Description / Installation Instructions

General Description

Climbing wall and supporting structure
ROX are an artificial climbing rock. They consist of a reinforced concrete wall covered in a coloured and modelled jetcrete layer of 50mm to 150mm thickness. The climbing wall or element is stabilized by a formed foundation base making each element self-supporting. Each element is individually carved by artists making each element unique. The coloured jetcrete comes in various colours to suit each individual location and additionally climbing grips can be attached to the surface to enhance the climbing experience.

Structural integrety
The climbing rocks have an integrated foundation foot, which makes them self-supporting. Due to the large mass and the center of gravity in the area of the foundation foot of the individual elements, no additional anchoring in the ground is needed.

Example section through a ROX wall:



Arrangement / Element combinations
The elements can be combined in various different ways:
1: Individually as a stand alone element.
2: In combinations:
   a. Arranged directly next to each other creating a continuous wall.
   b. Arranged with a gap between each element of approximately 400m – 500mm.
   c. Connected with ropes, nets, steel equipment.

Intended age group

h ≤ 2.00m:	age ≥ 3 years
1.50 m ≤ h ≤ 3.00m:	age ≥ 6 years

Safety instructions

EN 1176
The provisions of EN 1176: 2017 for playground equipment apply.
With regard to the free fall area of the elements as well as to the ground material in the impact area, the current requirements are the standard for playground equipment and playground surfacing EN 1176 and the standard for impact-absorbing playground surface - determination of the critical fall height EN 1177.
In addition, all additional requirements for the extension of the falling space and the size and nature of the immediate environment must be observed.

Information sign
According to EN 1176: 2017, a sign must be affixed to the entrance of a public play area.

Maintenance and Inspection instructions

General information
The points below should be checked in the indicated interval. The required controls should also be based on how much the equipment is used.
Regular inspection of the system is recommended. A main inspection should be done by an accredited body (e.g., Inspector / TUV) once a year.

Impact Absorbing Surface (IAS)
The impact absorbing surface must be adequately maintained. Failure to maintain such surfaces may significantly reduce the impact-absorbing effect.
For loose material, the additional layer thickness must be taken into account due to the clearance effect according to the standard.
The damping properties of the impact-absorbing materials must be checked. Check the shock protection material for misplaced objects or broken glass. Remove any existing grassy growths.

ROX structure
The ROX structure is usually maintenance free. Due to technological reasons, small cracks and salt efflorescence can occur.

Climbing Holds
Climbing holds have to be checked for stability and attachment.

Nets / Ropes
Nets and ropes must be checked for wear and stability as well as attachment of anchor points.

Steel elements
Steel elements must be checked for stability, anchorage and corrosion.

Proposal for the design of a control sheet
Intensive inspections / maintenance must be carried out when the device is subjected to intensive stress. For heavily used or vandalism-prone playgrounds, a daily visual and operational inspection may be required.

Climbing Area:		
	Grade	**deficits, defects**
Particular attention should be paid to the following:		
Fixings (e.g., climbing holds), connections, rope net anchors,		
Mechanical damage to load-bearing elements and attachments		
Surfaces / attachments:		
no open joints> 5mm, open mounting anchor / offset anchor, larger flakes		
no sharp edges, burrs		
no loose or missing climbing holds, rope anchors, attachments		
Security areas / case rooms / impact areas:		
sufficient impact absorbing surface (especially in heavily used areas)		
no misplaced objects (such as fences, trash cans, benches, self-built structures ...)		
no shards, garbage		
Supplement areas:		
no damage to paths and accommodation facilities		
no risk of tripping and larger bumps on paths		
safety of trees		
Fence equipment and barriers:		
no protruding wires		
no loose bar lattice mats		
no loose handrails (danger of crushing)		

evaluation scheme:	**Grade**	**Erläuterung**
	1 no deficits	no deficits
	2 marginal deficits	visual interference
	3 minor deficits	minor defects without safety defects
	4 clear deficits	Safety defects, elimination required
	5 serious deficits	Immediate rectification of defects required
	6 unusable	Blocking of the device and/or facility

Date	**Signature**
passed on at	**to**

INSTALLATION INSTRUCTIONS

ACCESS
First of all the right size of the placing point and the access have to be checked. Please make sure that a 45 ton lorry with a 13,60m long trailer will come in! MIN 3.5M WIDE

Also a mobile crane with 6 tons pressure each wheel has to be able to stand very close to FINAL POSITION OF each element. The pillars of the crane need an area of 8m x 8m to shore up. A 60 ton crane reaches to 15m.

CREATE SUB FOUNDATION
Excavate pit to specified dimensions and create sub base to one of the following specifications (drawings should be provided with order detailing information for size and position of excavations).

Option 1: 200mm of compacted stone laid in 100mm layers.

Option 2: 150-200mm of standard concrete to provide a stable, level and hard base (The grade of concrete to be used is not significant as the foundation is not intended to be loadbearing).

Option 1 will give a substantial enough base for the elements, but when placing two elements directly together option 2 is the recommended base as it will enable the elements to be moved into their final position with the use of steel bars.

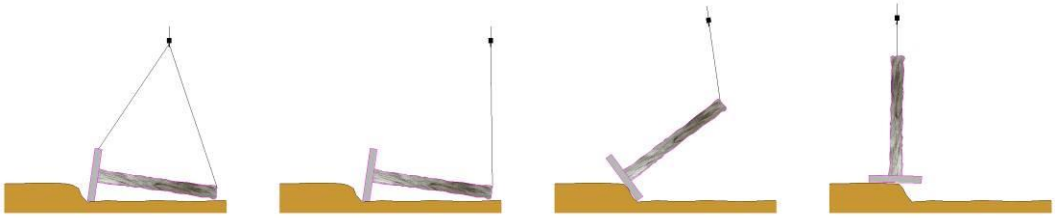
Use some of the spoil excavated to create a slope on one side of the pit this will assist when moving the element into an upright position (see following steps for details).

Fix the crane chains on the 4 lifting anchors of the wall. Lift the wall of the trailer.

Lay the element down carefully with the base next to the slope created during excavation.

Remove the two chains from the foundation base leaving the two on the top.

Pull slowly towards the slope created during excavation until element is in an upright position



Lift the element up again

Move the element to the correct position on the sub foundation and set down. If any adjustment in positioning of element is required, lift the element slightly off the ground and lever into position using a crowbar or similar.

Once positioned remove the lifting chains and unscrew the lifting loops from the element (both at the top and in the base).

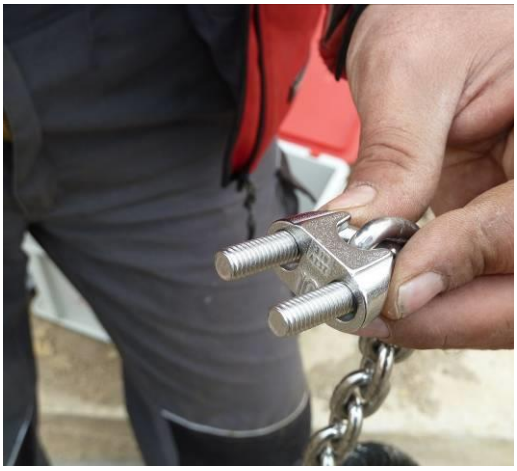
Elements positioned directly next to each other:
Repeat the above process for the second stone using a crow bar or similar to move the stone as close to the first stone as possible.

Lifting loop preperation
Wet the hole from lifting loop using a paint brush and water. Where the lifting loops have been removed the threaded holes need to be packed with a removable material (eg tissue, paper etc.)

Finishing the elements
Mix the colored mortar to the consistency of a thick paste.

Close lifting eyes
The hole is then to be filled with the mortar and finished by roughly brushing over the mortar leaving a texture similar to the rest of the stone (or use hand with glove).

Net fixing



If too long

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shorten chain…

Joint filling
Where two or more elements are joined directly the gap is to be filled using the following method:

Using a tube of mastic (or suitable flexible gap filling material) fill all the gaps between the stones.

Once filled push the dry mortar provided into the filler covering it in its entirety. This should provide a consistent surface similar to that of the finished stones.

Where deeper gaps are visible they can be filled using the above method and then using a wet brush, wet the surface around the joint.

Mix the colored mortar to the consistency of a thick paste and then throw the mixed mortar paste into the gaps.

This can then be finished by roughly brushing over the mortar leaving a texture similar to the rest of the stone.

Surfacing installation
When installing any of the types of surfacing recommended make sure that the safety material is filled in tight to the elements to prevent accidents.