

A3

Bemix A3, based on a low-alkaline and sulfate-resistant cement, pumpable expanding concrete that is used for underpouring and filling. Applications include fence posts, machine underpourings, anchorages and bridge bearings. Meets the requirements for AMA Anläggning 23. Approved for concrete repairs according to EN 1504-6.

Work description

Preparation:

The concrete substrate must be clean and free of dust, damaged concrete, grease or other contaminants that may impair adhesion. Substrate with a roughened and raw surface with closely spaced irregularities provide better adhesion. Clean the substrate carefully and if possible pre-water 24 hours before casting. Remove surface water immediately before casting.

Mixing:

Do not mix by hand. The best mixer is a rapid mixer type Rojo 50, automatic mixer or pan mixer. For smaller quantities, mixing with a drill and mixer attachment works well. Mix to an even and clump-free consistency. Always pour in the water first. Use a graduated mixing vessel and ensure that the temperature of the mix is 20 °C. The mixed concrete must be used within 20 minutes.

Casting:

The mix must be poured into the mould continuously and as quickly as possible. There must be no interruptions until casting is finished. The mix should only be poured into the mould from one side so as to avoid air pockets. Ensure that the mould does not leak. Where large areas are to be underpoured, the concrete should be pumped on site for the best result.

Reinforcement:

To avoid cracks etc. due to drying out, reinforcing steel is laid in the concrete in cases such as: with thick underpourings, when the underpouring is long such as with rail underpouring, when the underpouring goes outside the slab, with in-situ casting or where there is a risk of rapid drying out. The reinforcement is laid in the mould/formwork before casting with the recommended covering layer.

After treatment:

Concrete that needs to be removed is scraped off with a finishing trowel once it has hardened sufficiently. The work can be made easier by pushing a sheet of metal down onto the concrete to form a limitation and assist chiselling.

After-curing:

Free and unprotected surfaces are protected immediately after casting so that shrinkage and dehydration cracks do not occur. After casting, the surface can be moisture-cured with a thin, light mist of water, but that cannot mechanically damage the mortar. At air temperatures above 5°C, curing may take place with remaining form, covering or supply of water and may last the entire first week. As soon as the surface hardens, it can be watered and covered. After formwork is removed, exposed surfaces can be protected with membrane insulation.

Removing formwork:

If there is a risk of drying out the formwork should remain in place for a week. Otherwise the formwork can be removed the day after casting.

Anchorage:

The work must be carried out according to EN 1504-10 and the surface structure and cleanliness of surfaces in anchoring holes and slots must comply with 7.2.2, 7.2.3 and 7.2.5 and shall be suitable for the anchoring material.

Drilling is done at an angle to the surface, including for vertical surfaces. The drill hole should be the diameter of the item to be embedded plus 25 mm and the drill used must meet the requirements according to 1504-10 and also EN 1881 and create a surface roughness of the concrete substrate. When a hole has been drilled, it is cleaned out with compressed air and finally carefully plugged before the next hole is drilled. The drill hole is filled with water at least 24 hours before installation. Clean out the hole with compressed air immediately before installation. There must be no free water in the hole before installation. After the hole has been blown clean, installation must be done immediately. The bolt to be embedded must be free of loose rust, oil, grease or other contaminants.

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Installation:

With vertical holes, the concrete is held down in the hole with the aid of a funnel, for example. The bolt is then pushed carefully down into the hole with a backwards and forwards motion so that air bubbles are pressed out of the concrete. The entire hole must be full of concrete after the bolt has been installed. The bolt is held in place for support. The support must not be allowed to get stuck.

After treatment:

The support can be dismantled the day after casting.

After-curing:

When after treatment is done protect free surfaces from drying out. Use a water mist and lay and protect with plastic sheeting. Keep damp for the whole first week. After formwork is removed, exposed surfaces can be protected with membrane insulation.

Technical data

Technical information for P marking		
General		
Property	Declared value	Method
Consumption	25 kg gives approx 12.5 litres ready mix	
Binder type	Cement, Cem II/A-V 42,5 N –NSR MH/LA	
Stone max	4 mm	
Rec. cast thickness non-reinforced	20–100 mm	
Chloride content	0,01%	SP-metod 0433
Max water addition	2.9 litres/25 kg	
Wcr with max water addition	<0.32	
Rec.Lowest application temperature	≥ +5°C (Weather and wind must always be taken into account)	
Rec.Highest application temperature	< +30°C(Weather and wind must always be taken into account)	
Fresh mortar		
Property	Declared value	Method
Consistency after 5 min	≥ 350–450 mm	SP method 1651
Water separation		SS 137540
Air content	2–5 %	SS EN 1015-7
Expansion after 1 and 24 hours	> 0,2-2 %	SS137540:2008
Fill properties	≤ 50 st 20–200 mm ²	SP 1614
	None > 200 mm ²	SP 1614
Setting time	4.5–5.5 hours	SS 137126
Shrinkage after 231 days	≤ 2 ‰	SS 137215
Cured mortar		

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Property	Declared value	Method
Frost resistance, 56 cycles, flaking	Good	SS 13 72 44 IA
Compressive strength at 20 °C		
After 24 hours	> 20 MPa	EN 196-1
After 7 days	> 50 MPa	EN 196-1
After 28 days	> 70 MPa	EN 196-1
Exposure class	XC4, XS3, XD3, XF4, XA2	SS 137003:2015

Packaging

The product is supplied in 25 kg sacks, 40 sacks to the pallet.

Storage

Use within 12 months from manufacture date on the package. Assumes dry storage in unopened packaging.