

# Standard

**Bemix Standard is a pumpable, expanding concrete that is used for underpouring and filling when strength needs to develop rapidly. Mainly used for underpinning for posts, machine foundations and rails. Applications include machine underpinnings, bolt anchorages and where the requirements for underpourings are high. It develops strength quickly. It is easily pumped and has a very flowing consistency, which is a must for good underpouring even with cavities and other narrow spaces.**

## Work description

### Casting

#### 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 or automatic 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

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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.

#### Installation:

Mix according to the directions on the product sheet. With vertical holes, the concrete is held down in the hole with the aid of a funnel, for example. With horizontal holes use Bemix concrete injector. 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. The top surface of the concrete is kept damp for at least five days. No load must be applied until the concrete has developed sufficient strength. With repairs the work should be performed according to EN 1504-10.

## Technical data

| Technical information for P marking               |                                                              |                |
|---------------------------------------------------|--------------------------------------------------------------|----------------|
| Property                                          | Dedared value                                                | Method         |
| General                                           |                                                              |                |
| Consumption                                       | 25 kg gives about 12.5 litres of mix                         |                |
| Binder                                            | Cement CEMI 52,5 R                                           |                |
| Stone max                                         |                                                              |                |
| Recommended layer thickness                       | 20–70 mm non reinforced                                      |                |
| Chloride content                                  | 0,025 %                                                      | SP 0433        |
| Max water addition                                | 3,5 litres/25 kg                                             |                |
| WCR with max water addition                       | < 0,35                                                       |                |
| 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                                      |                                                              |                |
| Consistency after 5 min                           | ≥ 350 mm                                                     | SP-method 1651 |
| Water separation                                  | 0                                                            | SS-EN 445      |
| Fill properties                                   | ≤ 50 st 20–200 mm <sup>2</sup>                               | SP 1614        |
|                                                   | None > 200 mm <sup>2</sup>                                   |                |
| Setting time                                      | 5–6 hours                                                    | SS 137226      |
| Shrinkage                                         | ≤ 2‰                                                         | SS 137215      |
| Air content                                       | ≥ 2-5 %                                                      | EN 1015-7      |
| Expansion after 1 and 24 hours                    | > 0,8-3 %                                                    | SS 137540:2008 |
|                                                   |                                                              |                |
| Cured mortar                                      |                                                              |                |
| Frost resistance 56 cycles, flaking average value | Very good (in saltwater) , 0,02 [kg/m <sup>2</sup> ]         | SS 13 72 44 1A |
| Compressive strength at 20 °C                     |                                                              |                |

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|                |                     |                |
|----------------|---------------------|----------------|
| After 24 hours | > 40 MPa            | EN 12190:1998  |
| After 7 days   | > 60 MPa            | EN 12190:1998  |
| After 28 days  | > 80 MPa            | EN 12190:1998  |
| Exposure class | XC4/XS3/XD3/XF4/XA1 | SS 137003:2015 |

## Packaging

The product is supplied as standard in 25 kg sacks (item no. 522200) but can normally also be obtained in 1000 kg big sacks (item no. 52570360).

## Storage

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