

High Tech 310

Bemix High Tech 310 is a pumpable, thixotropic, certified grout with expansion. Mainly used for jointing where a joint with good seal and high strength is required and for anchoring steel and bolts in vertical surfaces. Bemix High Tech 310 is easy to apply by hand or with suitable pumping equipment. Used for jointing of concrete elements and natural stone where a joint with good seal and high adhesion is required. Also suitable for smaller castings with high requirements and filing jobs where formwork cannot be used. 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. For jointing in minus degrees, use Bemix High Tech 310 FF.

Application advice:

The mortar is applied manually and carefully packed or can also be pumped with a purpose-designed concrete pump. Ensure that joints and underpourings are always completely filled so as to avoid cavities.

Reinforcement:

Joints over 20 mm layer thickness need to be reinforced with the prescribed covering layer.

After treatment:

Semi-hardened material can be adjusted with a trowel. 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.

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 10 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.

Installation:

The concrete is injected into the drill hole with a Bemix concrete pump or manually with a Bemix concrete injector. For installation in sub-zero temperatures use Bemix High Tech 310 FF. 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.

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After curing:

When after treatment is done protect free surfaces from drying out. Apply a water mist and protect with plastic sheeting. Keep damp for the whole first week. The support can be dismantled the day after casting.

Technical data

General		
Binder type	Cement CEMI 52,5 R	
Stone max	1 mm	
Consumption	25 kg gives about 12.5 l of mix	
Rec.layer thickness jointing	5–40 mm non reinforced	
Rec.layer thickness other applications	5–20 mm non reinforced	
Max water addition	3.75 l per 25 kg	
WCR with max water addition	0,39	
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	Value	Method
Chloride content	< 0,1 %	SS-EN 196-2:2013
Consistency	Thixotropic	
Water separation	0	SS 137540:2008
Volume increase	0–4 %	SS 137540:2008
Air content, 5 min	>4 %	SS-EN 1015-7:1999
Cured concrete	Value	Method
Frost resistance, 56 cycles	0,02 kg/km	SS 137244 1A
Compressive strength at 20°C		
After 24 hours	> 35 MPa	EN 12190:1998
After 7 days	> 60 MPa	EN 12190:1998
After 28 days	> 70 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. 52310) but can normally also be obtained in 1000 kg big sacks (item no. 5257310).

Storage

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

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