webervetonit JB 600/3

Non-shrink grout C50/60-4

- Easy flowing compound that fills the mould well
- Rapid strength development
- Resistant to salt and freezing
- Approved in the bridge repair instructions (SILKO) of the Finnish Road Authority

About this product

Salt and frost resistant, class R4 rapidly strengthening compound the volume of which expands slightly prior to setting. Strength class C50/60-4 according to SFS-EN 206. Maximum grain size 4 mm. On order also available in 10 mm grain size (JB 600/10) or with sulphate resistant SR-cement (JB 600/3 SR).

Product attributes

- High strength

Application characteristics

- Hand applied
- Pumpable

Area of use

- Installation, pointing and second stage concrete application of concrete elements
- Anchorage soldering
- Difficult second stage and filler concrete applications in small spaces

Exposure classes: XF4, XC4, XS3, XD3, XA1 (XA2).

Product fulfills the requirements of R4-class according to SFS-EN 1504-3, cementitious non-shrink grout to be used in accordance with concrete repair principles 3.2 or 4.4.

Substrate

The substrate concrete is cleaned carefully of impurities. The best adhesion is achieved on coarse or coarsened concrete. The substrate must be moistened with clean water prior to casting. The moistening must be commenced well in advance so that moisture will no longer be absorbed from the Non-Shrink Grout to the base concrete when casting. Any water that has not been absorbed into the substrate must be carefully removed prior to casting using a brush or pressurised air, for example. The cast must be applied from one side only. The mould of this side must be built higher and wider than the rest so that the concrete will flow into the mould on its own weight (head box). Since Non-Shrink Grout is very easy flowing, the mould must be tight. When using galvanised steel in grouting or anchorage casting it must be ensured that the surface treatment has become passive. Non-passivated zinc reacts with the fresh concrete compound, resulting in the formation of hydrogen. The layer of hydrogen gas, which is formed around the steel, may cause the adhesion between the steel and the hardened concrete to break. The passivation of galvanised steel takes 2-3 weeks in a temperature of +15...+20 °C and 5-6 weeks in a temperature of 0...+5 °C. In unclear circumstances sufficient passivation must be ensured through preliminary testing. Passivity can also be achieved through chromate treatment.

Product specification	
Recommended water content	10-11% (2.5-2.75 l/25 kg of dry mix)
Mixed volume	Approx. 11-12 l/25 kg (Approx. 440-480 l/1000 kg)
Application temperature	The ambient temperature must remain above +5 °C. The optimum temperature of the compound is +10...+20 °C. The cast must not be allowed to freeze during the first 2 days after application.
Adjustable time	Approx. 30 minutes.
Binder	CEM I 52,5 N
Aggregate	Natural sand, grain size 0-4 mm
Additive	Additives that improve workability and weather resistance and increase the volume of fresh concrete
Adhesion strength 28 days	> 2.0 MPa (EN 1542)
Compressive strength class	C50/60-4
Compressive strength 1 day	Approx. 45 MPa (+20 °C, EN 12190)
Compressive strength 7 days	Approx. 60 MPa (+20 °C, EN 12190)
Compressive strength 28 days	Approx. 70 MPa (+20 °C, EN 12190)
Restrained shrinkage/expansion	Adhesion strength after test > 2.0 MPa (EN 12617-4)
Unrestrained shrinkage 28 days	0.7 mm/m (EN 12617-4)
Fire class	A1 (EN 13501-1)
Frost resistance	XF4 (Salt-frost resistant) (Tile test SS-137244 Metod A and EN 13687-1)
Carbonation resistance	Pass (EN 13295)
Modulus of elasticity	> 20 GPa (EN 13412)
Air content	2-5% (SFS-EN 1015-7)
Chloride content	< 0.05% (SFS-EN 1015-17)
Capillary absorption	≤ 0.5 kg/(m²*h$^{0.5}$) (SFS-EN 13057)
Expansion (early age)	Approx. +1%
Water cement ratio	0.3 (with maximum water volume)
Volume weight wet	Approx. 2200 kg/m³
Equipment recommendations	Weber Pump Set with large sack silo or to normal sacks. Stator 50/7R or Betonstar, steel reinforced hose maximum of 60 m.
Storage conditions	Shelf life is 12 months from date of manufacture (unopened package, dry space)
Package	25 kg sack. 1000 kg large sack.
Certifications	CE, FI

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SAINT-GOBAIN
Please find contact information
on your local Weber website.

Substrate type
• Concrete

Mixing
A total of 2.5-2.75 litres of clean potable water is added to one sack (25 kg) of Non-Shrink Grout, depending on the flexibility requirement. Mixing should ideally be carried out using a concrete mixer or a slowly rotating drilling machine beater. The minimum amount of water is measured into the mixing vessel and the dry product is added while stirring constantly. After the initial mixing the agility of the compound is inspected and if necessary, the remainder of the water is added. The maximum amount of water must not be exceeded. The temperature of the water should preferably be between +10...+30 °C. The temperature of the water is selected so that the temperature of the ready-to-use compound is +10...+20 °C. The mixing time when using mechanical mixing devices is 3-5 minutes.

Work instructions
Once mixed, Non-Shrink Grout remains suitable for casting for about 30 minutes. However, in order to fully benefit from the expansion, which affects the filling capacity of the grout, casting should be carried out as soon as possible after mixing. The casting is performed from one side only. If necessary, the pouring of the grout can be aided by compacting or gentle vibrating. The application temperature must remain above +5 °C. Fresh cast must not be allowed to freeze within the first two days after application.

Large casts for machine baseplates are commonly done in one cast layer so that the layer is a maximum of 5 cm in thickness. If casts that exceed 5 cm in thickness are produced as a single layer, a compound of maximum stiffness must be used in order to avoid the risk of disintegration. However, one of the following methods should be preferred:
• Casting is done with webervetonit JB 600/10 Non-shrink grout C50/60-10.
• The grain size curve of the Non-Shrink Grout is coarsened by substituting 15% of the weight of the dry product with coarser, clean and dust-free mineral aggregate of 5-10 mm in size (= 3.75 kg of mineral aggregate /25 kg of dry product).
• Casting is carried out in two layers so that the layers are a maximum of 5 cm in thickness. The top layer is cast approximately 24 hours after the bottom layer.

Separate anchoring boltholes for machines and through holes in walls and floors can be done in one cast if material consumption in cast is less than 200 litres. More detailed working instructions are available in brochure "4-62 webervetonit Juotoslaastit - Työohje", which is available in Finnish language.

After-treatment
Aftercare begins as soon as the casting has been completed, by protecting the surface from drying too quickly (moisture and cover). Gentle moistening can usually be commenced as soon as 30 minutes after the casting, once a more compact, soft cover layer has formed on the surface. Moistening ensures the sufficient expansion of the grout and a high level of hydration of the cement. Generous moistening must be continued for at least the duration of the first two days. Aftercare is then continued by spraying water on the surface and covering it, for example, or by using aftercare products for at least 7 days.

Please observe
Notes on dimensioning:
The diameter of the hole for the anchor bolt must be at least 20 mm larger than the diameter of the bolt when measured at the thickest part of the anchor bolt/steel in. With large anchoring lengths, such as when anchoring into a rock, where it is difficult to ensure that the sides of the anchorage hole are straight and the hole free of impurities, the space between the bolt/steel and the hole may have to be larger than above.

Disclaimer
As there are different conditions at every opportunity, Weber can not be held responsible for anything other than the information provided under the heading "Product Specification". Examples of information and circumstances, which are outside Saint-Gobain (whether specifically stated or not) include storage, construction, processing, interoperability with other products, workmanship and local conditions.

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