



# webervetonit JB 1000/3

## Non-shrink grout C60/75-4

- Easy flowing compound that fills the mould well
- Very high final strength
- 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 C60/75-4 according to SFS-EN 206. Maximum grain size 4 mm.

### Product attributes

- High strength

### Application characteristics

- Hand applied
- Pumpable

### Area of use

- Demanding precision casting, such as casts designed for affixing and installing machinery
- Installation casts for bridge bearings and concrete applications in tight and demanding places

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 passiva-

### 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	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	C60/75-4
Compressive strength 1 day	Approx. 45 MPa (+20 °C, EN 12190)
Compressive strength 7 days	Approx. 70 MPa (+20 °C, EN 12190)
Compressive strength 28 days	Approx. 90 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	2-4% (SFS-EN 1015-7)
Chloride content	< 0.05% (SFS-EN 1015-17)
Capillary absorption	≤ 0.5 kg/(m <sup>2</sup> ·h <sup>0.5</sup> ) (SFS-EN 13057)
Expansion (early age)	Approx. +1%
Water cement ratio	0.3 (with maximum water volume)
Volume weight wet	Approx. 2250 kg/m <sup>3</sup>
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

tion 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.

## 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. 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, following method should be preferred: 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. More detailed working instructions are available in brochure "4-62 webervetonit Juotolaastit - 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.

## Disclaimer

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