WEBER SB 45 REPAIR CONCRETE C35/45-8

- Good resistance to deicing agents and frost
- Pumpable
- Easy to work and to compact (consistency approx. 1-2 sVB)
- Rapid strength development
- Approved in the bridge repair instructions (SILKO) of the Finnish Road Authority
- The product is listed in the portal for building products that can be used in Nordic Swan Ecolabelled buildings.

ABOUT THIS PRODUCT

Salt and frost resistant, class R4 repair concrete, which is designed for structural repair of concrete by casting. Product was specially designed for use with structures which need to be very strong and tight even if exposed to moisture, frost and deicing agents. Strength class C35/45-8 according to SFS-EN 206. Maximum grain size 8 mm.

AREA OF USE

Product intended for structural repair of concrete as cementious mortar for concrete repair according principles 3.2. or 4.4. Product fulfills the requirements of R4-class according to SFS-EN 1504-3.

Exposure classes: XF3, XF2, XC4, XS1, XD2, XA1 (50 years designed lifetime) and XF3, XF2, XC4, XD2, XA1 (100 years designed lifetime), SFS-EN 206.

In severe climate conditions where concrete is exposed to moisture, frost and deicing agents.
• Bridge and pier structures close to or above the seawater line

PRODUCT SPECIFICATION

Recommended water content	2.3-2.5 l/25 kg of dry mix, when consistency approx. 1-2 sVB
Mixed volume	Approx. 11-12 l/25 kg (Approx. 440-480 l/1000 kg)
Pot life (Operating time)	Approx. 1 h
Binder	CEM I 52,5 N
Aggregate	Natural sand 0-8 mm
Additive	Additives that improve workability, weather resistance and tightness
Adhesion strength 28 days	> 2.0 MPa (EN 1542)
Compressive strength class	C35/45-8
Compressive strength 1 day	Approx. 25 MPa (EN 12390-3)
Compressive strength 7 days	Approx. 40 MPa (EN 12390-3)
Compressive strength 28 days	> 45 MPa (EN 12390-3)
Restrained shrinkage/ expansion	Adhesion strength after test > 2.0 MPa (EN 12617-4)
Unrestrained shrinkage 28 days	0.6 mm/m (EN 12617-4)
Fire class	A1 (EN 13501-1)
Frost resistance	Salt-frost resistant (EN 13687-1)
Carbonation resistance	Pass (EN 13295)
Air content	Approx. 5-7%
Chloride content	< 0.05% (SFS-EN 1015-17)
Capillary absorption	≤ 0.5 kg/(m^2*$h^{0.5}$) (SFS-EN 13057)
Water cement ratio	0.5 (with maximum water volume)
Volume weight wet	Approx. 2200 kg/m^3
Equipment recommendations	Weber Pump Set with large sack silo or to normal sacks. Stator Betonstar, steel reinforced hose maximum of 35 m or steel pipe (D=2" with hose and pipe).
Storage conditions	Shelf life is 12 months from date of manufacture (unopened package, dry space)
Package	25 kg sack. 1000 kg large sack.
GTIN-codes	6415990410663 (25 kg) 6415990148719 (1000 kg)
Certifications	CE, FI, Key Flag Symbol

• Structures, such as edge beams of bridges and parking facilities, exposed to deicing agents

Saint-Gobain Finland Oy
Weber
Strömberginkuja 2, PL 70
00381 Helsinki

www.fi.weber

Saint-Gobain Tuoteneuvonta
Puh. 010 44 22 312
tuoteneuvonta@saint-gobain.com

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• Grouting and filling of precast concrete structures
• Also suited for use in structures exposed to a weak chemical load, for example in foundations on acid soil

SUBSTRATE

The temperature of the substrate and air must be over +5 °C. The optimum temperature of the compound is between +10...+20 °C. Fresh cast must not be allowed to freeze within the first three days after application.

MIXING

A sack of SB 45 powder (25 kg) is mixed into 2.3-2.5 litres of clean potable water, depending on the plasticity requirement. Mixing should ideally be carried out using a concrete mixer or a slowly rotating drilling machine beater for 3-5 minutes. Mixing is done in two stages: first the water is measured into the mixing vessel using the minimum amount of water instructed and then the dry product is added evenly, mixing constantly. After initial mixing, the consistency is checked and the rest of the water is added, if necessary. Do not use more water than instructed. 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.

WORK INSTRUCTIONS

Old concrete surfaces are cleaned and if necessary, coarsened. Finally surfaces are cleaned with pressured water. The substrate is moistened before the work is started. The surface must be damp when casting is started. The adhesion to base concrete is ensured by brushing the compound powerfully to substrate and the casting is done immediately on top of the adhesion layer. The minimum layer thickness is approximately 50 mm. Since SB 45 is very easy flowing (consistency approx. 1-2 sVB), the mould must be tight. The casting is compressed with a poker vibrator, for example. On larger job sites, SB 45 can also be pumped with a suitable pumping equipment.

AFTER-TREATMENT

The concrete is wetted and evaporation is prevented, using for example a plastic cover for at least 7 days. After-treatment must take place immediately after casting by protecting the cast from the drying effects of sun and wind. For example at pier and bridge structures, where climate conditions are usually windy, it is advisable for the working area to be covered with a cover tent. Aftercare can also be done by using suitable aftercare product.

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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