WEBER REP 45 CONCRETE PATCH REPAIR

- Cement based, polymer-modified (PMC) and plastic fibre-reinforced
- Especially designed for repairs of bridge and harbour constructions
- Resistant to salt and freezing
- Approved in the bridge repair instructions (SILKO) of the Finnish Road Authority
- Certified EPD environmental product description
- 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, non-drip class R4 repair mortar, which is designed for structural repair of concrete.

AREA OF USE

Product intended for levelling, filling and repairing concrete structures on both horizontal and vertical surfaces according to concrete repair principles 3.1. Product fullfills the requirements of R4-class according to SFS-EN 1504-3. Suitable for concrete structures with strength classes ranging from 35 MPa to 55 MPa. For weaker concrete surfaces, weber REP 25+ Concrete easy repair should be used. If sulphate resistance or especially high strength is required, weber REP 65 Repair mortar should be used.

SUBSTRATE

Concrete surfaces are cleaned carefully. Damaged concrete is removed either mechanically (chipping, milling) or with wet sandblasting, for example. After mechanical removal, the structure must be wet sandblasted to remove the partially damaged surface layer. The surface is then pressure-washed. Any exposed steel is handled according to the engineer's instructions. Any remaining iron mountings are carefully cleaned of rust until they conform to a cleanliness level of at least Sa 2 (using sandblasting, wet sandblasting, a high-pressure water jet or a steel brush). The structure is then pressure-washed and the steel mountings are immediately covered with weber REP 05 Slurry Primer. The substrate is moistened 24 hours before commencing the repair work. The volume of water used depends on local conditions (e.g. weather,

PRODUCT SPECIFICATION

Recommended layer thickness	Approx. 5-20 mm (50 mm when filling a single cavity)
Recommended water content	3.0-3.3 l/20 kg of dry mix (15-16.5%)
Mixed volume	Approx. 11 l/20 kg
Pot life (Operating time)	Approx. 45 minutes
Binder	CEM II A 42.5 R, Fast-setting Portland cement and polymer
Aggregate	Natural sand 0-2 mm
Additive	Additives that improve workability, adhesion, tightness and weather resistance. Polypropylene fibres.
Adhesion strength 28 days	> 2.0 MPa (EN 1542)
Compressive strength 1 day	Approx. 10 MPa (EN 12190)
Compressive strength 7 days	Approx. 30 MPa (EN 12190)
Compressive strength 28 days	> 45 MPa (EN 12190)
Restrained shrinkage/ expansion	Adhesion strength after test > 2.0 MPa (EN 12617-4)
Fire class	A2 (EN 13501-1)
Frost resistance	Salt-frost resistant (EN 13687-1)
Carbonation resistance	Pass (EN 13295)
Chloride content	< 0.05% (SFS-EN 1015-17)
Capillary absorption	≤ 0.5 kg/(m²*h$^{0.5}$) (SFS-EN 13057)
Storage conditions	Shelf life is 12 months from the date of production (unopened package, in dry conditions)
Package	20 kg plastic sack
GTIN-codes	6415910045821 (20 kg)
Certifications	CE, EPD, Key Flag Symbol

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

2023-06-26

quality of the existing concrete surface). The substrate is moistened just before commencing the repair work. The repair work can get underway once all the water has been absorbed into the structure. The substrate must be moist but not shiny at the start of the application. On smooth (but undamaged) or unevenly absorbent substrates, adhesion can be ensured by priming the surface with weber REP 05 Slurry Primer. In such cases, REP 45 is then applied on top of the wet REP 05, which has been brushed carefully onto the substrate. The substrate must be absorbent and clean of dust, adhesive cement and other materials that hinder adhesion. The lowest temperature at which the mortar can be applied is +5 °C. Avoid applying the mortar in direct sunlight or in strong winds.

MIXING

REP 45 is mixed mechanically using a drilling machine beater. A sack of REP 45 (20 kg) is mixed with 3.0-3.3 litres of clean potable water. The mixing takes place in two stages: first, the minimum amount of water is measured into the mixing vessel and the dry product is added while mixing continuously. This creates an even, relatively rigid compound, which is left to stand for approximately 10 minutes. Then the compound is mixed again and the remaining water is added as needed. Do not exceed the stated maximum amount of water! The mixed mortar remains usable for approximately 45 minutes.

WORK INSTRUCTIONS

For levelling, each layer should be 5-20 mm in thickness. When filling in holes and cracks, each layer can be up to 50 mm in thickness. The ambient temperature must remain above +5 °C for the entire duration of the application as well as for 5 days afterwards.

AFTER-TREATMENT

Aftercare plays a crucial role in ensuring optimal adhesion, strength and firmness of the repair mortar. Aftercare comprises keeping the fresh repair mortar moist for a period of five days after the application. The efficiency of aftercare can be increased by covering the surface with plastic, and therefore also reducing the effects of sun and wind. In order to prevent plastic from shrinking and cracking, the surface must be covered immediately after the repair mortar has been applied. The structure should be protected with a plastic sheet whenever possible in order to counter the effects of weather conditions, for example. Towards the end of the aftercare period, the volume of moistening is reduced gradually to prevent the shock of sudden drying, which may cause cracking and failure of the adhesion.

PLEASE OBSERVE

The instructions and layer thickness values are for guidance only. The number and thickness of layers may vary depending on the conditions. Contributing factors include ambient temperature, wind and the absorbency of the substrate. This is why each application should be tailored to the individual conditions in order to achieve sufficient adhesion, strength and firmness.

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.

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

2023-06-26