BETON GROUT 100

Go to TDS

Mortars

FREE-FLOWING, SHRINKAGE COMPENSATED CEMENTITIOUS GROUT, WITH ADDED POLYMER FIBER REINFORCEMENT, WITH A WORK-HARDENING EFFECT, FOR RESTORING CONCRETE REQUIRING A HIGH LEVEL OF DUCTILITY.

PRODUCT DESCRIPTION

Beton Grout 100 is a ready-mixed, compensated-shrinkage, powdered mortar made from high strength cement, selected aggregates, special super-plasticising additives and synthetic fibers. When mixed with water, Beton Grout 100 forms hi-flow mortar suitable for pouring into formwork, when used to reintegrate concrete, or into specially prepared seats, when used for anchoring work, without having to vibrate the mix and with no risk of segregation, including when applied in thick layers. If Beton Grout 100 is mixed with water only, it must be cured in a damp environment in order to allow its expansive properties to develop fully and correctly. Thanks to this particular technology, guaranteeing higher dimensional stability and a reduction in cracking phenomenon. Beton Grout 100 complies with the principles defined in EN 1504-9, the requirements of EN 1504-3, which regulates products used to carry out structural and non-structural repairs on concrete elements, and of EN 1504-6, which defines products used to anchor rebar in place.

SUITABLE SUBSTRATES

· Concrete.

FIELD OF APPLICATION

· Rebuilding and strengthening motorway kerbs.
· Anchoring barriers.
· Strengthening structural elements and members such as reinforced concrete pillars and beams.
· Rebuilding pier caps and bearing elements on motorway viaducts.
· Integrating floor slabs on bridges and viaducts after removing damaged areas.
· Repairing concrete floors.
· Repairing joints in motorways.
· Repair work on hydraulic structures.

LIMITATIONS

· Do not apply on smooth substrates: roughen surfaces beforehand.
· Do not apply on dry substrates.
· Do not add cement or admixtures.
· Do not add water to the mix to make it more workable once it starts to set.
· Do not leave bags exposed to the sun before use.
· Do not use if the temperature is lower than +5°C.
· Do not use if the bag is damaged or if it has been opened previously.
· Do not use for fixing elements accurately in place.

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APPLICATION PROCEDURE

A) Preparation of the substrate

· Remove all deteriorated and loose concrete to form a solid, rough and strong substrate. Any areas previously repaired and which are not perfectly bonded must also be removed.

· Remove all dust, rust, cement laitance, grease, oil and paint from the concrete and reinforcement rods by sandblasting or hydro-sandblasting.

· Treat reinforcement rods with Ferroprimer 1K or 2K, according to the procedure given in the Technical Data Sheet of product.

· Saturate the substrate with water.

· Before carrying out repairs, wait until excess water has evaporated.

B) Preparing the product

Pour approximately 5.5 liters of clean water into a container and slowly add a 25 kg bag of Beton Grout 100 while mixing. Carefully mix the blend for several minutes then remove any powder which has stuck to the sides and bottom of the container. Add more water to obtain the consistency required without exceeding the recommended amount, approximately 6-6.5 liters. Mix again for several minutes to form a well-blended, plastic consistency, lump-free mixture. Beton Grout 100 remains workable for around 15 minutes at +10°C to +25°C.

C) Applying the product

Pour a constant flow of Beton Grout 100 into the formwork from one side only, making sure that the air is expelled and make sure the formwork is well sealed to prevent any mortar leaking out. The formwork must not draw any of the mixing water from the Beton Grout 100 and it is recommended to treat the formwork with a form-release product. There is no need to vibrate the mortar after pouring. Pieces of round bar may be used to help the mortar flow into more difficult areas. If areas thicker than 5 cm need to be repaired with Beton Grout 100 and they are not confined, dolly bars must be placed in position before pouring the mortar so that the layer of mortar over them is at least 2-3 cm thick. Layers less than 5 cm thick may be poured without adding rebar, as long as the substrate has a surface roughness of at least 5 mm to contrast expansion phenomenon, which normally takes place within the first 24 hours. When applied as anchoring of metallic structures pour Beton Grout 100 in a constant flow from one side only, making sure that the air is expelled from the area to be filled, which must be at least 2.5-3 times bigger than the diameter of the bar to be anchored. The mortar does not need to be vibrated after pouring. Use lengths of round iron bar to work the mortar into tight spaces.

COVERAGE / CONSUMPTION

The consumption is approximately 1.5kg/m² at 1 mm thickness.

PACKAGING

Beton Grout 100 is supplied in:
– 25 kg paper bags.

SHELF LIFE-STORAGE

Original sealed bags of this product are guaranteed to be of first quality for 12 months if stored off of the ground in a dry area. High humidity will reduce the shelf life of the bagged product.

SAFETY INSTRUCTION

Beton Grout 100 is irritant; it contains cement that when in contact with sweat or other body fluid causes irritant alkaline reaction and allergic reactions to those predisposed. It can cause damage to eyes. In case of contact with eyes or skin wash immediately with plenty of water and seek medical attention. It is recommended to use protective gloves and goggles. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet. PRODUCT FOR PROFESSIONAL USE.

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TECHNICAL DATA

Product identity	
Class according to EN 1504-3	R4
Type	PCC
Consistency	powder
Color	grey
Maximum diameter of aggregate (EN 1015-1) (mm)	10
Bulk density (g/cm³)	1.400
Dry solids content (%)	100
Ion chloride content (%)	≤ 0.05
Application data (at +23°C and 50% R.H.)	
Colour of mix	grey
Mixing ratio	26-28%
Consistency of mix	flow
Density of mix (kg/m³)	2.400
pH of mix	12
Application temperature	+5 to +35°C
Pot life of mix	approx. 60 minutes
Final performances	
Compressive strength (MPa)	105
Flexural strength (MPa)	23
Compressive modulus of elasticity (GPa)	45
Pull-out strength of steel bars - bonding stress - (MPa)	32
Bond strength on concrete (substrate type MC 0.40) according to EN 1766 (MPa)	≥ 2
Thermal compatibility measured as bond strength according to EN 1542 (MPa)	≥ 2
Capillary absorption (kg/m²·h)	≤ 0.4
Impermeability expressed as coefficient of permeability to free water (kg/m²·h)	W < 0.1 Class III
Permeability to water vapour – equivalent air thickness S - (m)	S < 5 Class I
Reaction to fire	A1

WARNING
Danger. Contains Portland Cement: Chromium VI < 2 ppm within the validity period of the product. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. P261 Avoid breathing dust. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302 + P352 IF IN CONTACT WITH YOUR SKIN: Wash with plenty of water/... P305 + P351 + P338 IF IN CONTACT WITH YOUR EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/ doctor/...

EMISSION CLASS FOR BUILDING MATERIAL M1

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