EXOCEM G1

Pourable mortar with self-leveling compensated shrinkage

CE EN 1504-6 ANCHORING OF STEEL FRAMEWORK

CE EN 1504-3 STRUCTURAL AND NON-STRUCTURAL REPAIR

Ruredil Technical data sheet

The Material

EXOCEM G1 is a cement-based premixed product including selected aggregates, super-fluidifying additives and materials to control shrinkage in both the plastic phase (UNI 8996) and in the hardened phase (UNI 8147). After the addition of water, super-fluid mortar is obtained with no shrinkage, high mechanical strength, high impermeability and durability, sulfate resistance, suitable for precision anchoring of metal structures or machineries.

Properties

EXOCEM G1 has the following characteristics:

- high mechanical strength to compression and bending;
- ease and speed of placement and finishing;
- resistance to chemicals such as chlorides (de-icing salts, seawater, etc.), sulphates, acid rain, carbon dioxide;
- resistance to freezing and thawing cycles.

Field of application

- Anchors of all types
- Stands for steel structures or for machine tools
- Support of bridges
- Solidification of pillars with base plinths
- Sealing of precast items
- Construction or repair of foundations or underpinning
- Structural reinforcements through formworks

Application Procedure

Subbase preparation

The substrate must be thoroughly cleaned by removing dust as well as any traces of rust, oil and grease.

Roughen the surface, possibly using a hammering unit, removing the deteriorated concrete.

This operation is required to ensure perfect adhesion of EXOCEM G1 to the substrate.

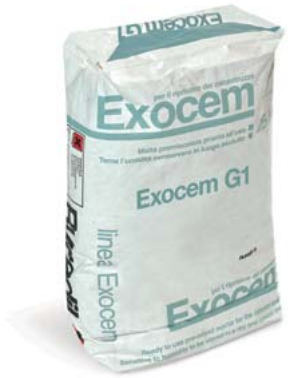
Water-saturated subbase

Wet the substrate by saturating it with water, taking care to remove any excess water.

Material preparation

It is advisable to prepare the mortar with a mechanical mixer, and avoid mixing by hand.

Pour about 90% of the water required in the mixer, then operate the mixer adding EXOCEM G1 without interruption in order to avoid the formation of lumps.



Compliance with the EN 1504-6 and EN 1504-3 standard

EXOCEM G1 meets the requirements defined in UNI EN 1504/9 standard ("Products and systems for protection and repair of concrete structures; definitions, requirements, quality assurance and evaluation of conformity.

General principles for the use of products and systems") and the minimum requirements of EN 1504-6 standard ("Anchoring of steel reinforcement") and EN 1504-3 standard ("Structural and non-structural repair") for R4-class structural mortar.

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Mix the material for 2-3 minutes; add the remaining water, if necessary, to obtain the desired consistency and stir for another 3-4 minutes.
In very hot climates, small increases in water content can be tolerated, compared to the values in the table, while the opposite occurs in cold and damp conditions.

Application

Mortar placement should start after the material has been mixed with the recommended procedures, starting from one side to avoid formation of air bubbles.
It is advisable to apply the product at temperatures between +5°C and +40°C; low temperatures (< 5 °C) considerably slow down the setting; high temperatures (>40°C) cause fast loss of mortar workability.

Technical Specifications

Maximum diameter of aggregates	3 mm
Mixing water per 100 kg of dry premixed material	12.5 – 13.5 liters
Mortar consistency (EN 13395-1)	250 +/- 20 mm
Specific density of wet mortar (EN 1015-6)	2.10 ± 0.05 g/cc
Volume of wet mortar per 100 kg of dry premixed material	approx. 54 liters
Yield (consumption of dry premixed material)	approx. 1.85 kg/m²/mm
Yield – Grouting (consumption of dry premixed material)	approx. 1.85 kg/dm³
Contrasted expansion 1 day (UNI 8147)	>0.04%
Compressive Strength 1,2,7,28 days (EN 12190)	>40>55>70>80 MPa
Bending Strength 1,2,7,28 days (EN 196-1)	>4 >6 >7.5>8 MPa
Elastic Modulus - after 28 days (EN 13412)	> 33 GPa
Slipping after 28 days (EN 1881)	Shifting <0.6 mm under load of 75 KN
Strength of adhesion to smooth bar after 28 days - RILEM-CEB-FIP- RC6-78	> 4 MPa
Strength of adhesion to bar with improved adhesion after 28 days -RILEM-CEB-FIP- RC6-78	>25 MPa
Adhesion to concrete after 28 days (EN 1542)	>4 MPa (the support breaks)
Reaction to fire (EN 13501-1)	Euroclass A1

Storage

EXOCEM G1 must be kept in its original packaging, sealed, at a temperature between +5 °C and + 40 °C, in a roofed and dry place. Once a pack is opened, use all the content because, being cement based, the product is sensitive to moisture.

Safety Information

Please, consult the technical documentation and health and safety sheets before proceeding with use. EXOCEM G1 is a cement-based product. It may cause irritations to the skin and eyes. It is recommended to always wear protective clothing, gloves, and suitable protective eyewear.

Curing

After mortar placement has been completed, it is advisable to protect the surface of the mortar exposed to air against evaporation, by wetting it repeatedly for at least 12 hours. Alternatively, it is possible to use the evaporation preventer CURING ECO.

Note:

Do not use EXOCEM G1 for
- Applications with trowel and spray
- Applications in contact with liquids with pH < 6

DATA SHEET

Chemical-physical specifications:
Density: 2,10 +/- 0,05 (Fresh Mortar)
Consistency: 250 +/- 20 mm (Fresh Mortar)

CE
EN 1504-6 and EN 1504-3

Indicative composition:
Cement-based product and river aggregates admixed with water reducers with polycarboxylates polymers base.

Product use:
Pourable mortar with self-leveling compensated shrinkage

Packaging
25 kg bags

Code
0105180020

Yield:
(consumption of dry premixed material)
approx. 1.85 kg/m²/mm
Yield – Grouting
(consumption of dry premixed material)
approx. 1.85 kg/dm³

Update 09.2016

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