

Flexcem® GP

General purpose non-shrinking cement-based grout for repairs and strengthening.

Description

Flexcem® GP is pre-mixed, pre-packed chloride free cementitious grout. It contains cement, selected additives, well graded, and non-reactive aggregates and is designed to give excellent flow properties, shrinkage compensation, frost resistance, and high compressive strength. Moreover eliminates the permeability of floorings and makes the cleaning easier.

It provides:

- Very good flowability without segregation. High initial and final strength.
- Efficient bonding to steel and concrete. Resistance to impact and vibration.
- Low water permeability.

Flexcem® GP is classified as a type B grout, according to ASTM C 1107-99 and as a CC R4 mortar for concrete repairs,

Fields of application

Flexcem® GP is applied in a thickness of up to 100 mm and is suitable for:

- Repairs and re-profiling in damaged concrete elements.
- Construction of concrete jackets at existing concrete elements.
- Filling cavities and hollows in concrete elements.
- Grouting of machinery and equipment to maintain precision alignment.

Technical Data

Form	cementitious mortar	
Colour	grey	
Water demand	3.5-4.5 l/25kg bag	
Application temperature	from +5°C to +35°C	
Pot life	~60 mins	
Bulk Density		
• Dry Mortar	1.30 +/- 0.10 kg/l	
• Fresh Mortar	2.05 +/- 0.10 kg/l	
Effective bearing area	95%	
Chloride content	0.0%	
Compressive strength (ASTM C 579 – 01)	<i>Plastic mix</i>	<i>Flowable mix</i>
• 1 day	20 MPa	17 MPa
• 7 days	41 MPa	32 MPa
• 28 days	61 MPa	42 MPa
Flexural Strength, 28 days, at 27°C	11 MPa	10 MPa
Free linear Expansion, (ASTM C 827)	0.2%	
Adhesion Strength, 28 days at 27°C	2.2 MPa	2.0 MPa
Coefficient of Thermal Expansion, per °C	11·10 ⁻⁶ (Similar to Concrete)	

Directions to use

Substrate Preparation

All grouting surfaces should be clean and free of foreign substances including corrosion, if present on steel. Remove all spalled areas and areas of unsound concrete. Preparation work done on the grouting surfaces should be completed by high pressure water blast, breaker, hammer, or other appropriate mechanical means to obtain a properly prepared



surface. Saturate repair area with clean water before grouting to ensure SSD condition. No standing water should be left in the repair area.

Mixing

Flexcem® GP should be mechanically mixed for a minimum of 3 minutes using a drill and paddle mixer. For larger applications, a standard mortar mixer may be used. Add only enough water to achieve the preferred consistency either plastic mix or flowable mix. Add the powder to the water and mix to a lump free consistency. Typical starting water contents can be found in below table.

Consistency	Water Demand per 25kg bag
<i>Plastic mix</i>	3.5 Litres
<i>Flowable mix</i>	4.0 Litres

Application

Place the grout quickly and continuously using proper consolidation techniques when possible (i.e. light rodding, vibrating, tamping, etc.) to eliminate air bubbles. The typical application depth of **Flexcem® GP** is up to 100 mm. For applications over 100 mm in depth, it is preferable to extend the product with high quality 9.5 mm gravel, at a rate of approximately 12.5kg of gravel per 25kg bag of **Flexcem® GP**. For many applications, it may be placed up to 150 mm in depth without the extension. When placing at depths over 100 mm and the surface area is over 0.25 m², the product should be extended. For all these applications, care should be taken to not overwater, which may cause segregation.

Curing

A damp cure of at least 3 days is necessary to control the non-shrink characteristics and maintain strength levels.

Precautions

- Additions of cement or other materials will eliminate the designed product qualities
- Water quantities may be affected by temperature, mixing method and batch size
- Should not be re-tempered
- Mix no more grout than can be placed in 25 minutes.
- Use a consistent water temperature when mixing multiple batches, to prevent performance fluctuations.

Packaging

Flexcem® GP is available in plastic containers of 5 kg and 10 kg and HDPE bags of 25kg.

Shelf life & storage

12 months from production date if stored in original, unopened packaging, in temperature between +5°C and +35°C. Protect from direct sun exposure and frost.

Health & safety

The product contains cement powders which, when mixed with water, release alkalis that could be harmful to the skin. It is preferable that the application be done in a ventilated area, and to wear protective gear for hands, eyes and respiratory system and to avoid breathing of the dust. Splashes on the skin should be washed away by cleaning with soap and water. In case of contact with eyes, wash thoroughly with clean water. If swallowed, do not induce vomiting, in both cases seek medical attention. The product is non-flammable.

Notes

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