

Flexcem 400

High-strength, non-shrinking pourable cement based cast grout for repairs and strengthening

DESCRIPTION

Flexcem 400 is specially designed for use where high tolerance, high strength and high fluidity are required. It is formulated as a natural aggregate system with a shrinkage-compensating binder and is highly flowable without sacrificing strength or performance capabilities. **Flexcem 400** is formulated to provide consistent and exacting performance in critical grouting operations.

FIELDS OF APPLICATIONS

Typical applications for **Flexcem 400** include grouting of:

- All types of machinery
- Steel columns
- Bearing plates
- Precast concrete
- Other anchoring or void filling conditions that require high strength

The non-shrink characteristics of **Flexcem 400** make it stable and capable of handling high load transfers.

TECHNICAL DATA

Form	cementitious mortar
Colour	grey
Water demand	3.75-4.75 l/25kg bag
Application temperature	from +5°C to +35°C
Pot life	~60 mins
Bulk Density	
• Dry Mortar	1.35 +/- 0.10 kg/l
• Fresh Mortar	2.10 +/- 0.10 kg/l
Effective bearing area	95%
Chloride content	0.0%
Compressive strength (ASTM C 579 – 01)	
• After 1 day	>24 MPa
• After 7 days	>52 MPa
• After 28 days	>63 Mpa

Flexural Strength, 28 days, at 27°C	>10 MPa
Free linear Expansion, (ASTM C 827)	0.2%
Adhesion Strength, 28 days at 27°C	2.0 MPa
Coefficient of Thermal Expansion, per °C	11-12x10 ⁻⁶ (Similar to Concrete)

DIRECTIONS FOR USE

Substrate Preparation

The substrate must be clean, free of dust, grease, etc. Furthermore, it must be roughened, in order to ensure proper bonding of the grout on it. Before application, the substrate should be thoroughly dampened.

Formwork

Formwork shall be constructed of rigid non-absorbent materials, securely anchored, liquid-tight and strong enough to resist forces developed during grout placement. The clearance between formwork and baseplate shall be sufficient to allow for a headbox. The clearance for remaining sides shall be one to two inches (25 - 50 mm). Areas where bond is not desired must be treated with form oil, paste wax or similar material. Isolation joints may be necessary depending on pour dimensions.

Application

Flexcem 400 is gradually added into 3.5 kg of water and mixed well with a low-speed mixer (300 rpm.), until a uniform fluid mass is formed. An additional quantity of up to 0.50 kg of water is added under stirring, until the desired fluidity is achieved. The mixture is then poured, taking care to avoid air entrapment. In every case, it must be ensured that the grout has filled the whole space between the formwork and the existing construction.

Minimum placement thickness is 10mm when mixed it to a fluid consistency.



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For pours over 150 mm in depth **Flexcem 400** should be extended with a clean damp coarse aggregate meeting the requirements of ASTM C 33.

Curing

Curing is very essential for **Flexcem 400**. Curing shall be started within 20- 24 hours depending on climatic conditions. Curing shall be done by sprinkling of water (4-6times per day for 7-10 days) for vertical and ceiling surfaces. Good quality curing compound can also be used where water curing is not possible..

COVERAGE

Approx. 21.5 kg/m²/cm of layer thickness, or 2.1 kg for filling 1 l of volume.

REMARKS

- Temperature during application must be between +5°C to +30°C.
- Material that has started to set must not be softened again with water.
- The product keeps its fluidity for approx. 60 minutes, at temperatures between +15°C and +25°C.
- At high temperatures, the product should be stored in a cool place and mixed with cold water in order to achieve the appropriate fluidity for a sufficient period of time (about 60 minutes).
- At low temperatures and whenever early strength development is required, it is recommended to mix the material with lukewarm water and protect it from cold by placing thermal insulating covers around the formwork.

PACKAGING

Flexcem 400 is supplied in 25 kg HDPE bags

STORAGE & SHELF-LIFE

12 months after manufacturing date in original and non-open packaging, under cover, in dry condition, away from humidity, protected from extreme temperatures and direct sunlight.

SAFETY PRECAUTIONS

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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