

## General purpose, non-shrink cementitious filler grout

### Uses

Conbextra FG is used As a general purpose non shrink grout for filling gaps between precast concrete blocks, light weight concrete blocks, sound and heat insulation boards placed on horizontal surfaces, Infill of cavity in double wall system, backfill grout for tunneling works, annulus grouting of PVC liners used for sewer pipe rehabilitation works etc.,

### Advantages

- Gaseous expansion system compensates for shrinkage and settlement in the plastic state.
- Can be pumped or poured into restricted locations.
- Highly fluid to allow for placement without vibration.
- High flow retention aids long distance pumping.
- Pre-packed to overcome site-batched variations.
- Low permeability
- Economical
- Contains no chloride admixture.
- Ease of use

### Description

Conbextra FG is supplied as a ready to use blend of dry powder, which requires only the site addition of clean water to produce a free-flowing, non-shrink, pumpable grout. The material is based on Portland cements, and fillers, and additives which impart controlled expansion characteristics in the plastic state, while minimising water demand. Controlled setting and high flow retention of Conbextra FG shall be achieved by adding Conplast R

### Technical support

Fosroc offers a technical support package to specifiers, end users and contractors as well as technical on-site assistance in locations all over the country.

### Properties

#### Compressive strength : (BS1881 : Part 116, 1983)

Age(days)	Compressive strength (N/mm <sup>2</sup> ) consistency (W/P - 0.20) Flowable
3	20
7	25
28	30

**Flexural strength** 3 N/mm<sup>2</sup> at 28 days

**Young's modulus** 24 kN/mm<sup>2</sup>

#### Expansion characteristics :

**Unrestrained expansion** : 1 to 4%

**Pressure to restrain** : Approx. 0.004 N/mm<sup>2</sup>  
**plastic expansion**

**Note** : It is necessary to restrain free flow grout edges over 50mm wide. Otherwise unrestrained expansion may lead to some cracks.

**Coefficient of thermal expansion** : 10-12x10<sup>-6</sup> per °C

**Fresh wet density** : 2100-2200 kg/m<sup>3</sup>

### Specification Clauses

The non shrink filler grout shall be Conbextra FG, a single component, cement based material to which only the site-addition of clean water shall be permitted. The repair grout in the flowable consistency should achieve a compressive strength of not less than 3N/mm<sup>2</sup> in 3 days 30°C. The cured grout shall contain no metallic aggregates, or chlorides and shall be shrinkage compensated in the plastic state. The grout shall have a coefficient of thermal expansion similar to that of concrete.

### Application instructions

#### Preparation

The substrate surface must be free from oil, grease or any loosely adherent material. If the concrete surface is defective or has laitence, it must be cut back to a sound base.

# Conbextra® FG

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*Pre-soaking* : Several hours prior to placing, the concrete substrates should be saturated with clean water. Immediately before grouting takes place any free water should be removed

## **Formwork**

Wherever the grout has to be placed with a formwork, the formwork should be sturdy and leakproof. In some cases it is practical to use a sacrificial semi-dry sand and cement formwork. The formwork should include outlets for pre-soaking.

## **Mixing and placing**

### **Mixing**

For best results a mechanically powered grout mixer should be used. When quantities up to 50kg are used, a slow speed drill fitted with a high shear mixer is suitable. Larger quantities will require a high shear vane mixer. Do not use a colloidal impeller mixer. To enable the grouting operation to be carried out continuously, it is essential that sufficient mixing capacity and labour are available. The use of a grout holding tank with provision to gently agitate the grout may be required.

The quantity of clean water required to be added to a 25kg bag to achieve the desired consistency is given below:

**Flowable** : 5 litres

The selected water content should be accurately measured into the mixer. The total content of the Conbextra FG bag should be slowly added and continuous mixing should take place for 5 minutes. This will ensure that the grout has a smooth even consistency.

## **Placing**

**For cavity filling** : Conbextra FG can be filled up into clear gaps of size ranging from 15 mm to 100 mm. For thicker sections it is necessary to fill out Conbextra FG with well graded silt free aggregate to minimise heat build up. Typically a 10mm aggregate is suitable. 50 - 100% aggregate weight of Conbextra FG can be added. Continuous grout flow is essential. Sufficient grout must be prepared before starting. The time taken to pour a batch must be regulated to the time to prepare the next one.

**For Pumping** : Estimate the quantity of Conbextra FG to be used, measure the recommended quantity of water and pour it in the mixer bin, unload the contents of Conbextra FG bag, keeping the mixer on. Mix for 3-4 minutes to get a grout mix of homogeneous consistency. Pump the mixed grout using a suitable pump at recommended pressure. Conbextra FG shall be modified to high flow retention by adding Conplast R. The optimum dosage of Conplast R shall be ascertained after doing some site trials.

## **Unrestrained Surface Area**

After placing of Conbextra FG, the unrestrained surface area must be completely filled with silt free aggregates (10 mm down size) to prevent surface cracking.

## **Curing**

After 8 hours of placing the grout, exposed areas of the grout should be filled with water or with wet hessian cloth

## **Estimating**

## **Packaging**

Conbextra FG is supplied in 25 kg single lined HDPE bags.

## **Yield**

One bag of Conbextra FG will yield 13.5 litres at a water powder ratio of 0.20.



# Conbextra® FG

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## Storage

### **Shelf life**

6 months if stored in a dry and well enclosed place.

## Precautions

### **Health and Safety**

Conbextra FG is non toxic, but alkaline in nature. Gloves should be worn while handling this product. Splashes of grout on the skin or eyes should be washed off with clean running water. In the event of prolonged irritation, seek medical advice.

## Additional information

For further details about the use and selection of grout refer to the Fosroc Information module entitled 'Precision grouting in the Construction industry'.

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### Important note :

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