

# Conbextra GP Premix

## General Purpose Non-Shrink Cementitious Grout

### Uses

Conbextra GP Premix is used for general purpose grouting where it is essential to eliminate shrinkage when completely filling the void between a base plate and a substrate. Such an application would be the grouting of a stanchion base plate. It can also be used for anchoring a wide range of fixings. These include masts, anchor bolts and fence posts.

### Advantages

- Gaseous expansion system compensates for shrinkage and settlement in the plastic state.
- No metallic iron content to cause staining.
- Pre-packaged material overcomes potential on-site batching variations.
- Develops high early strength without the use of chlorides.
- High ultimate strength and low permeability ensure the durability of the hardened grout.

### Description

Conbextra GP Premix general purpose non-shrink cementitious grout, is supplied as a ready to use dry powder. The addition of a controlled amount of clean water produces a flowing non-shrink grout for gap thicknesses up to 500 mm.

The material is based on Portland cement, graded aggregates and additives which impart controlled expansion in both the plastic and hardened states while minimizing water demand.

The hardened product exhibits excellent thermal compatibility with concrete and outstanding water repellent properties. The aggregate grading is designed to aid uniform mixing and to eliminate segregation under pumping pressures. The low water requirement ensures fast strength gain and long-term durability.

### Technical Support

Fosroc offers a comprehensive range of high quality, high performance construction products. In addition, Fosroc offers a worldwide technical support and on-site service to

specifiers, end-users and contractors.

### Properties

The following results were obtained at a range 3.3 – 3.8 litre and temperature of 23±3°C.

Test Method	Typical Result
Compressive Strength	25-30 N/mm <sup>2</sup> @ 1 day
ASTM C109/C109M	55-60 N/mm <sup>2</sup> @ 7 days
	65-70 N/mm <sup>2</sup> @ 28 days
Flexural strength, 28 days	
SNI-03-4431-1997	50 – 60 kg/cm <sup>2</sup>
Time for expansion	
Start :	±15 minutes
Finish :	±120 minutes
Fresh wet density	Approximately 2270 kg/m <sup>3</sup> depending on actual consistency used.
Expansion characteristics	
ASTM C940:	Up to 2% @ 24 hours

### Specification Clauses

#### Performance specification

All grouting where shown on the drawing must be carried out with a pre-packaged cement based product which is chloride-free. It shall be mixed with clean water to the required consistency.

The plastic grout must not bleed or segregate. A positive volumetric expansion shall occur while the grout is plastic by means of a gaseous system. The compressive strength of the grout should 65-70 N/mm<sup>2</sup> at 28 days. The storage, handling and placement of the grout must be strictly in accordance with the manufacturer's instructions.

#### Supplier specification

All grouting where shown on the drawing must be carried out using Conbextra GP Premix manufactured by Fosroc and used in accordance with the manufacturer's data sheet.

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## Instructions for Use

### Preparation

#### Foundation surface

The substrate surface must be free from oil, grease or any loosely adherent material. If the concrete surface is defective or has laitance, it must be cut back to a sound base. Bolt holes and fixing pockets must be blown clean of any dirt or debris.

#### Pre-soaking

For a minimum of 2 hours prior to grouting, the area of cleaned substrate should be flooded with fresh water. Immediately before grouting takes place, any free water should be removed. Particular care should be taken to blow out all bolt holes and pockets.

#### Base plate

It is essential that this is clean and free from oil, grease or scale. Air pressure relief holes should be provided to allow venting of any isolated high spots.

#### Levelling shims

If these are to be removed after the grout has hardened, they should be treated with a thin layer of grease.

#### Formwork

The formwork should be constructed to be leak proof. This can be achieved by using foam rubber strip or mastic sealant beneath the constructed formwork and between joints. In some cases it is practical to use a sacrificial semi-dry sand and cement formwork.

#### Unrestrained surface area

This must be kept to a minimum. Generally the gap width between the perimeter formwork and the plate edge should not exceed 75 mm on the pouring side and 25 mm on the opposite side. It is advisable where practical to have no gap at the flank sides.

## Mixing and Placing

### Mixing

For best results a mechanically powered grout mixer should be used. When quantities up to 40 kg 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.

### Consistency of grout mix

The quantity of clean water required to be added to a 30 kg bag to achieve the desired consistency is given below.

Trowelable	:	2.9 – 3.3 litres
Flowable	:	3.3 - 3.8 litres

The selected water content should be accurately measured into the mixer. The total contents of the Conbextra GP Premix 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

At 25°C place the grout within 15 minutes of mixing to gain full benefit of the expansion process. Conbextra GP Premix can be placed in thicknesses up to 500 mm in a single pour when used as an underplate grout. Premix with well graded 10mm, already mixed with silt free aggregate to minimise exotherm. If bulking with aggregate is used the ratio shall not exceed 1:1. Any bolt pockets must be grouted prior to grouting between the substrate and the base plate. 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. Pouring should be from one side of the void to eliminate any air or pre-soaking water becoming trapped under the base plate. The grout head must be maintained at all times so that a continuous grout front is achieved.

Where large volumes have to be placed Conbextra GP Premix may be pumped. A heavy duty diaphragm pump is recommended for this purpose. Screw feed and piston pumps may also be suitable.

### Curing

On completion of the grouting operation, exposed areas should be thoroughly cured. This should be done by the use of **CONCURE PI** curing membrane or other Concure.

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## Cleaning

Conbextra GP Premix should be removed from tools and equipment with clean water immediately after use. Cured material can be removed mechanically.

## Limitations

### High temperature working

At ambient temperatures above 35°C the following working practices should be adopted.

- Store unmixed material in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- Try to eliminate application during the hottest times of the day and in direct sunlight.
- Make sufficient material, plant and labour available to ensure that application is a continuous process.
- Water (below 20°C) should be used for mixing the grout prior to placement.

## Estimating

### Supply

Conbextra GP Premix is supplied in 30 kg bag.

### Yield

Allowance should be made for wastage when estimating quantities required. The approximate yield per 30 kg bag for different consistencies is:

Consistency	:	Trowelable	Flowable
Yield (litres)	:	±13.0	±14.5

## Storage

Conbextra GP Premix has a shelf life of 12 months (T: 25-35 °C, RH < 55%) in unopened original sealed bag. Stored in high temperature and high humidity locations reduce the shelf life.

## Precautions

### Health and safety

Conbextra GP Premix is alkaline and should not come into contact with skin and eyes. Avoid inhalation of dust during mixing. Gloves, goggles and dust mask should be worn. If contact with skin occurs, wash with water. Splashes to eyes should be washed immediately with plenty of clean water and medical advice sought.

### Fire

Conbextra GP Premix is non-flammable.

## Additional Information

Fosroc additionally offers a comprehensive package of products specially designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following:

- Hand-placed & spray grade repair mortars
- Fluid micro-concretes
- Chemically resistant epoxy mortars
- Anti-carbonation / anti-chloride protective coatings
- Chemical and adhesion resistant coating



Jl.Akasia II Blok A8 No.1  
Delta Silicon Industrial Park  
Lippo Cikarang  
Bekasi 17550  
Indonesia  
[www.fosroc.com](http://www.fosroc.com)

### Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by it.

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