



Conbextra GPXtra

High strength non-shrink cementitious grout

Uses

Conbextra GPXtra is high strength cementitious grout to be used for special grouting applications where non-shrink and high strength properties are required. The applications include the grouting of a stanchion base plate, anchoring and other grouting applications where high strength is important.

Advantages

- Gaseous expansion system compensates for shrinkage and settlement in the plastic state
- High early and ultimate strength, suitable to be used for heavy duty grouting
- Low permeability to ensure durability of the hardened grout
- Prepacked material, ready to use to overcome on-site batching variations

Description

Conbextra GPXtra is high strength non-shrink cementitious grout specially formulated from Portland cement, graded filler and special chemical additives. **Conbextra GPXtra** is supplied as ready to use dry powder. It is only required additional of clean water to produce a flowing non-shrink grout for grouting of gap thickness up to 100 mm. The present of special chemical additives will control plastic expansion and minimising water demand to ensure high early and ultimate strength.

Technical Supports

Fosroc offers a comprehensive range of high quality, high performance construction products. In addition, Fosroc offers a world-wide technical support and on-site service to specifiers, end users and contractors.

Properties

The following results were obtained at a water powder ratio of 0.16 and temperature 30 °C :

Test

Typical Result

Compressive strength BS 1881 : part 116,83	60 N/mm ² @ 1 day 65 N/mm ² @ 7 days 80 N/mm ² @ 28 days
Flexural strength BS 4551 1980 :	2.8 N/mm ² @ 1 day 9.3 N/mm ² @ 7 days 10.5 N/mm ² @ 28 days
Time to expansion Start Finish	: 15 minutes : 6 hours
Fresh wet density	: Approximately 2200 kg/m ³
Young Modulus ASTM 469-83	: 28 kN/mm ²
Expansion Characteristics	: An expansion of up to 1 % overcomes plastic settlement in the unset material

Specification Clauses

All grouting must be carried out with a pre-packed cement based product which is chloride free.

It shall be mixed with clean water to the required consistency. The mixed grout must not be bleed or segregate.

A positive volumetric expansion shall occur while the grout in plastic stage by means of a gaseous system.

The compressive strength of the grout must exceed 50 N/mm² at 1 day and 80 N/mm² at 28 days.

The storage, handling and placement of the grout must be in strict accordance with the manufacturer's instructions.

Conbextra GPXtra

Application Instruction

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

Several hours prior to grouting the area of cleaned foundation should be flooded with fresh water. Immediately before grouting takes place any free water should be removed with particular care being 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 grout.

Mixing

The quantity of water required to achieve the desired consistency is precise, and the volume used should be in accordance with the following

Desired Mix Consistency	Water in liter per 25 kg bag
Flowable	4.0 liter

Use a high shear mechanical mixer or drill (400 rpm) and mixing paddle (also available from Fosroc). Ensure that machine capacity and the number of operatives is adequate to enable

grouting to be carried out as a continuous operation. The need to observe the accurate gauging of water addition and the stated mixing time should be stressed to all operatives. When using a mechanical mixer to prepare pump and flow consistency grouts, add approximately 90% (w/w) of the recommended water requirement (see above) to the mixer before adding the dry powder. Mix until lumps are broken up (approximately 2 minutes), before adjusting the consistency with the addition of the gauge water. Mix until homogeneous for at least another 3 minutes.

Placing

At 20 °C place the grout within 20 minutes of mixing to gain full benefit of the expansion process.

Conbextra GPXtra can be placed in thickness up to 100 mm in a single pour when used as an underplate grout. For thicker sections, it is necessary to fill out Conbextra GPXtra with well graded silt free aggregate to minimize heat build up. Typically a 10 mm aggregate is suitable.

Any bolt pockets should 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.

Curing

On completion of the grouting operation, exposed area should be thoroughly cured. This should be done by the use of concure curing membrane, continuous application of water and/or wet hessian.

Cleaning

Conbextra GPXtra should be removed from tools and equipment with clean water immediately after use. Cured material can be removed mechanically, or with Fosroc Acid Etch.

Limitations

Low temperature working

When the air or contact surface temperatures are 5 °C or below on a falling thermometer, warm water.



Conbextra GPXtra

(30-40 °C) is recommended to accelerate strength development.

For ambient temperatures below 10 °C the formwork should be kept in place for at least 36 hours.

Normal precautions for winter working with cementitious materials should then be adopted.

High temperature working

At ambient temperature above 35 °C cool water (below 20 °C) should be used for mixing the grout prior to placement.

Estimating

Supply

Conbextra GPXtra is supplied in 25 kg moisture resistant bags.

Storage

Conbextra GPXtra has a shelf life of 12 months if kept in a dry store in sealed bags. If stored in high temperature and high humidity locations the shelf life may be reduced.

Precautions

Health and safety

Conbextra GPXtra 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 should be sought.

Fire

Conbextra GPXtra is non-flammable

Additional information

For further details about the use and selection of grouts refer to the Fosroc Information Module entitled "Precision Grouting in the Construction Industry".



Conbextra GPXtra



PT. Fosroc Indonesia

Jl. Akasia II Blok A8 No. 1
Delta Silicon Industrial Park
Lippo Cikarang
Bekasi 17550
Indonesia

www.fosroc.com

Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or 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 or information given by it.

telephone:

+ 62 21 897 2103
+ 62 22 520 1308
+ 62 31 502 9142

fax:

+ 62 21 897 2107
+ 62 22 522 2713
+ 62 31 502 2711

email:

indonesia@fosroc.com

