

Fosroc® Conbextra GP

General purpose non-shrink cementitious grout

Uses

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

Advantages

- Gaseous expansion system compensates for shrinkage and settlement in the plastic state.
- No metallic iron content to cause staining.
- Prepackaged 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.



Standard compliance

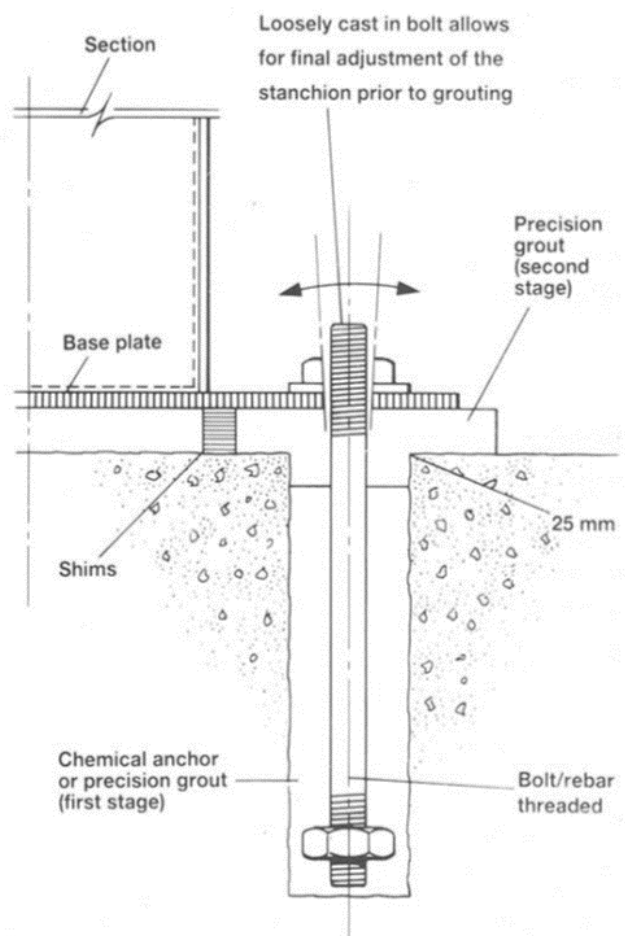
Conbextra GP meets or exceeds the test requirements of ASTM C 1107.

Description

Conbextra GP 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 of 10 to 100 mm.

Conbextra GP is a blend of Portland cement, graded fillers and chemical additives which impart controlled expansion in the plastic state whilst minimizing water demand. The low water demand ensures high early strength. The graded filler is designed to assist uniform mixing and produce a consistent grout.

Typical detail of stanchion base plate



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Properties

The following results were obtained at a water: powder ratio of 0.18 and temperature of 25°C.

Compressive strength (ASTM C109)	: 26 N/mm ² @ 1 day 55 N/mm ² @ 7 days 66 N/mm ² @ 28 days
Flexural strength (BS EN196-1)	: > 10 N/mm ² @ 28 days
Time for expansion	
Start	: 15 to 20 minutes
Finish	: 1.5 to 2 hours
Fresh wet density	: Approximately 2170 kg/m ³
Modulus of Elasticity (ASTM C469-02)	: >24000 Mpa
Expansion characteristics ASTM C940-98a	: Up to 2% @ 24 hours

Specification

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 must exceed 50 N/mm² at 7 days and 66 N/mm² at 28 days.

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

Supplier specification

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

Application Instructions

Preparation

Substrate 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 the base plate 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 the levelling shims 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. The formwork should include outlets for pre-soaking.

Unrestrained surface area

The unrestrained area must be kept to a minimum. Generally the gap width between the perimeter formwork and the plate edge should not exceed 150 mm on the pouring side and 50 mm on the opposite side. It is advisable where practical to have no gap at the flank sides.

Mixing

For best results a mechanically powered grout mixer should be used. When quantities up to 50 kg are used, a slow speed drill fitted with a Fosroc Mixing Paddle (MR3) should be used. 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.

Mixing should be in full bags where no part-bag mixes should be allowed under any circumstances.

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Consistency of grout mix

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

Trowellable : 3.4 - 3.6 litres per 25kg bag

Flowable : 4.2 - 4.5 litres per 25kg bag

The selected water content should be accurately measured into the mixer. The total contents of the Conbextra GP 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 can be placed in a minimum thickness of 10mm up to a maximum thickness of 100mm in a single pour when used as an under plate grout. For thicker sections it is necessary to fill out Conbextra GP with well graded 10mm, silt free aggregate to minimize exotherm. If bulking with aggregate is used the ratio shall not exceed 1:1. Contact Fosroc for details of pre-bagged supply. The properties of a bulked grout will differ from those published in this data sheet. For consistent results, the use of Conbextra TS is advisable.

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 taken to prepare the next one.

Pouring should be from one side of the void to minimize any air or pre-soaking water becoming trapped under the base-plate. It is advisable to pour the grout across the shortest distance of travel. 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 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 using Concure P. There is no need to remove Concure P as it will provide some protection and won't yellow. If using wet Hessian and plastic sheeting

then leave for at least seven days - especially if exposed to sunlight.

Cleaning

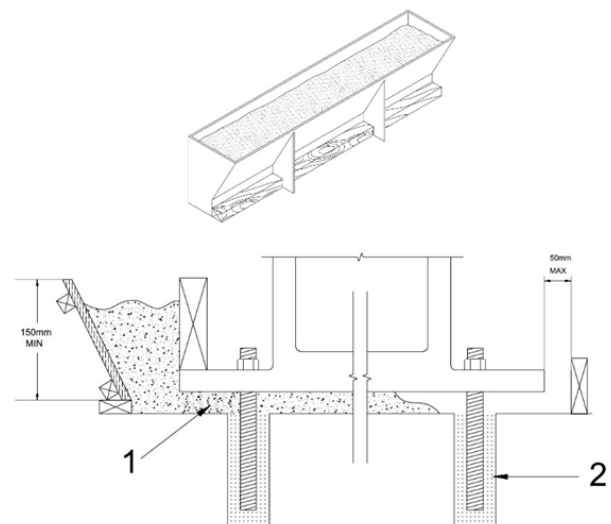
Conbextra GP should be removed from tools and equipment with clean water immediately after use. Cured material can be removed mechanically, or with Fosroc Acid Etch*†.

Sampling procedure

Cementitious grouts cannot be tested as concrete. Special sampling procedure are required refer to your local Fosroc office for further details.

Typical hopper system

Removable hopper: For larger pours the grout may be hand placed or pumped into a removable hopper (trough).



High temperature working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

- i) Store unmixed material in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- ii) 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.
- iii) Try to eliminate application during the hottest times of the day and in direct sunlight.
- iv) Make sufficient material, plant and labour available to ensure that application is a continuous process.
- v) Water (below 20°C) should be used for mixing the grout prior to placement.

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Limitations

Should not be placed in any unrestrained situation. However, can be used for bolt holes or pockets. For further details contact Fosroc.

Estimating

Supply

Conbextra GP	: 25kg bags
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Yield

Trowellable	: 12 liters per 25kg bag
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Flowable	: 13.25 liters per 25kg bag
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Note: Allowance should be made for wastage when estimating quantities required.

Storage

Conbextra GP 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 will be reduced.

Precautions

Health and safety

Conbextra GP 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 is non-flammable.

Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

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

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.

* Denotes the trademark of Fosroc International Limited
† See separate data sheet



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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