Fosroc Conbextra GP

constructive solutions

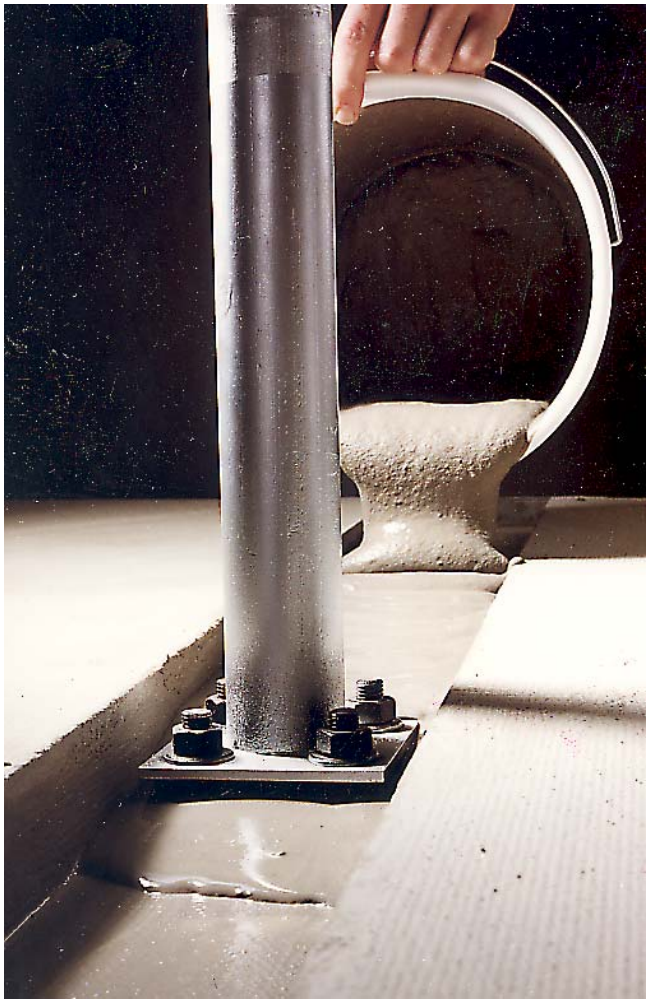
General purpose non-shrink cementitious grout

Uses

Conbextra GP general purpose grouting is used 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.
- 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.



Standards compliance

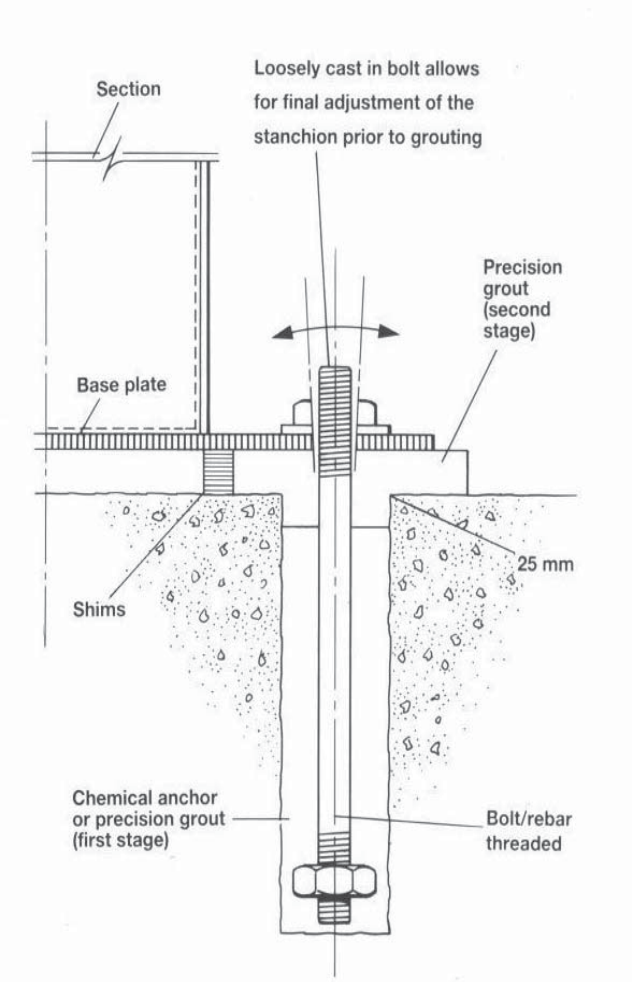
Conbextra GP meets or exceeds the test requirements of ASTM C 1107.

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 up 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 minimising 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



Properties

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

Compressive strength		
BS 1881 part 116 1983	:	26 N/mm^2 @ 1 day
		55 N/mm^2 @ 7 days
		66 N/mm^2 @ 28 days
Flexural strength		
BS 4551 Part 1-98	:	9.0 N/mm^2 @ 7 days
Time for expansion		
Start	:	15 to 20 minutes
Finish	:	1.5 to 2 hours
Fresh wet density	:	Approximately 2320 kg/m^3
Modulus of elasticity		
ASTM C 469-02	:	>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 50N/mm^2 at 7 days and 60 N/mm^2 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.

Instructions for use

Preparation

Concrete 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 leakproof. 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

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

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.

Consistency of grout mix

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

Trowellable	:	3.4 - 3.6 litres per 25kg bag
Flowable	:	4 - 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 underplate grout. For thicker sections it is necessary to fill out Conbextra GP with well graded 10mm, silt free aggregate to minimise 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.

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 eliminate any air or pre-soaking water becoming trapped under the baseplate. 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. Suggest curing with Concure 1315. There is no need to remove Concure 1315 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

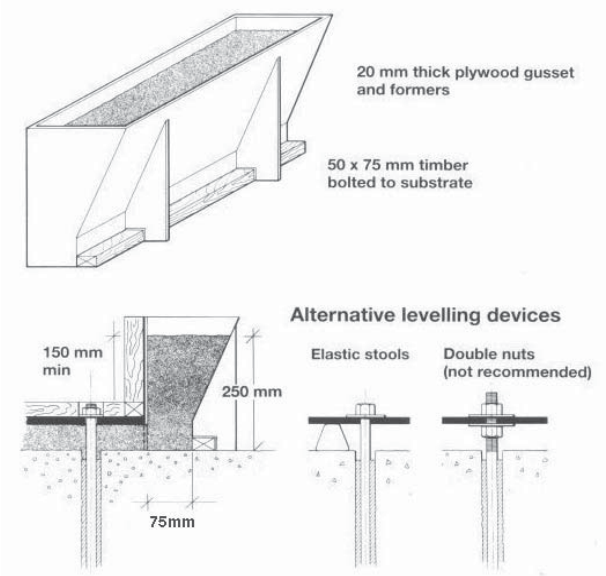
Conbextra GP should be removed from tools and equipment with clean water immediately after use. Cured material can be removed mechanically, or with Fosroc Acid Etch*†.

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.

Fosroc Conbextra GP

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	:	25 kg bags

Yield

Trowellable	:	12 litres per 25kg bag
Flowable	:	13.25 litres per 25kg bag

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 Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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ISO 9001 / ISO 14001 OHSAS 18001 BUREAU VERITAS Certification

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