

Conbextra SF

DUAL EXPANSION, High strength

Cementitious grout

Uses

Conbextra SF is a non-shrink cementitious grout used for medium to high flow and high strength grouting of gap thicknesses 10 to 100 mm.

Recommended applications include:

- Stanchion baseplates
- Joints between pre-cast concrete panels
- Grouting applications where pouring access is restricted
- Anchoring of reinforcing steel bars
- Installation of tie bars

Advantages

- DUAL EXPANSION system compensates for shrinkage and settlement in both plastic and hardened states, increasing the effective bearing area
- Highly consistent material with no bleed or segregation
- No Iron content ensuring no 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.
- Medium to high flow and easy application
- Machine pumpable

Standards compliance

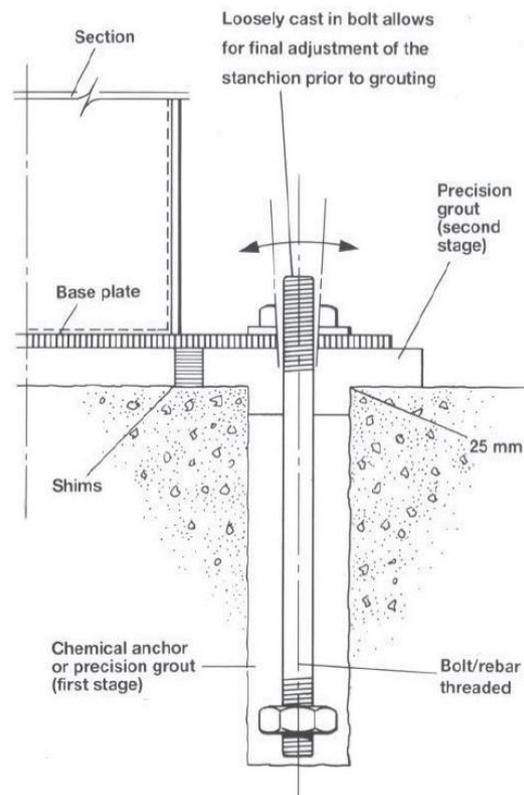
Conbextra SF meets or exceeds the test requirements of ASTM C 1107 Type C.

Description

Conbextra SF is a non-shrink cementitious grout with a unique DUAL-stage shrinkage compensating mechanism, which compensates for shrinkage in both the plastic and hardened states. Conbextra SF 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 SF is a blend of Portland cement, graded fillers and chemical additives which impart controlled expansion in both plastic state and hardened state whilst minimising water demand. The low water demand ensures high early strength and high ultimate strength. The graded filler is designed to assist uniform mixing and produce a consistent grout.

Typical detail of stanchion base plate



Conbextra SF

Properties

The following results were obtained at a temperature of 23±3°C.

Consistency	Flowable (BS890: 200~260mm ,Flow table : unmeasurable)	Pourable (Flow Table: 100~125%)	Trowellable (Flow Table: 40~70%)
Water: Powder ratio	0.16	0.15	0.14
Water requirement (Litres per 25kg bag)	4.0	3.75	3.25
Compressive Strength (ASTM C109), tolerance ±10%			
1day	30	35	40
7days	55	60	60
28days	70	75	80

Flexural Strength (ASTM C109): >10N/mm² @ 28 days

Time for expansion
Start : 15 to 20 minutes
Finish : 1.5 to 2 hours

Fresh wet density : Approximately 2240 kg/m³

Modulus of elasticity ASTM C 469 : >20000 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 storage, handling and placement of the grout must be in strict accordance with the manufacturer's instructions.

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.

Conbextra SF

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.

Flowable : 3.8 - 4.0 litres per 25kg bag

Pourable : 3.65 – 3.8 litres per 25kg bag

Trowellable : 3.0 - 3.3 litres per 25kg bag

Put 70~80% of the pre-measured water into the mixer, gradually add the whole Conbextra SF bag material into the mixer while continuously mixing. Add the remaining water until the desired consistency is

achieved. Mix for 4~5 minutes. This will ensure that the grout has a homogeneous consistency.

Placing

At 25°C place the grout within 15 minutes of mixing to gain full benefit of the expansion process.

Conbextra SF 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 SF with well graded 10mm, silt free aggregate to minimise exotherm. If bulking with aggregate is used the ratio shall not exceed 1:1. We have a special product with aggregate called **Conbextra GP Premix**. 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 SF may be pumped. A heavy duty diaphragm pump is recommended for this purpose. Screw feed and piston pumps may also be suitable.

Conbextra SF

Curing

On completion of the grouting operation, exposed areas should be thoroughly cured. Suggest curing with Concure 1315 or Concure PI. There is no need to remove Concure 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

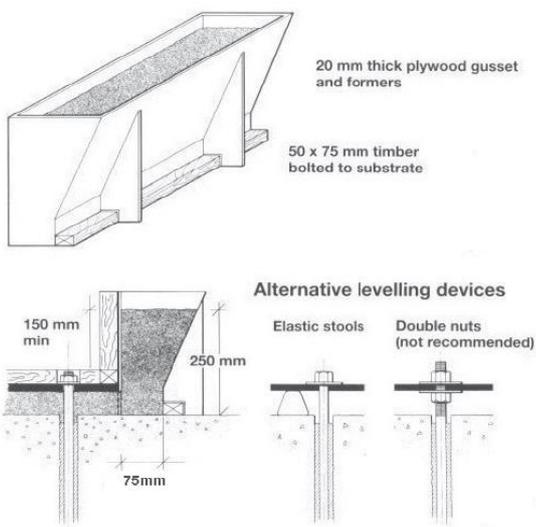
Conbextra SF should be removed from tools and equipment with clean water immediately after use. Cured material can be removed mechanically.

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.

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 SF : 25 kg bags

Yield

Flowable : 12.80~13.20 litres per 25kg bag

Note: Allowance should be made for wastage when estimating quantities required.

Conbextra SF

Storage

Conbextra SF 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 SF 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 SF is non-flammable.

Additional Information

Fosroc manufactures a wide range of complementary products which includes:

- 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.



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

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



DN EN ISO 9001:2000