

# Fosroc® Conbextra BB72-IN



constructive solutions

## Free Flow, Non Shrink, High Strength Cementitious precision grout

### Uses

Conbextra BB72-IN is designed for precision grouting of foundations with heavy loads. Product is specifically suitable for grouting joints in of precast concrete wind turbine towers.

### Advantages

- High early and Ultimate compressive strength
- Excellent flow characteristics and rheology permits pumping
- Non Shrink
- Prepacked material overcomes onsite batching variations

### Description

Conbextra BB72-IN is supplied as ready to use powder which is blend of Portland cement, graded fillers and chemical additives which impart a controlled expansion in plastic stage while minimising water demand.

The addition of controlled amount of clean water produces a free flowing, Non shrink grout with high early and ultimate strength. The mixed material is suitable for grouting gaps ranging from 10mm - 100mm thickness.

### Properties

The following results were obtained at 20°C:

Test method	Typical result
Fresh Density	: 2.20 kg/litre
Granulometry	: <2 mm
Water/powder ratio (3.875 to 4 ltrs / 25 kg)	: 0.155 to 0.16
Thickness applicable	: 10-100 mm
Workability EN13395 Part 2	: >500 mm
Initial setting	: 5.5 hours
Final setting	: 7.5 hours
Yield	: Fluid: 13.15 ltrs / bag
Compressive strength (ASTM C109 50.00mm cubes)	: 24 N/mm <sup>2</sup> @ 1 day : 55 N/mm <sup>2</sup> @ 7 days : 75 N/mm <sup>2</sup> @ 28 days
Flexural Strength (BS 4551, 40mm x 40mm x 160mm)	: 3 N/mm <sup>2</sup> @ 1 day : 10 N/mm <sup>2</sup> @ 28 days
Plastic state expansion time	: Start - 15 minutes Final - Initial setting
Expansion	: 0-1 %

The above results corresponds to a w / p = 0.16 ratio

The following results were obtained at 27°C.

**Note:** The typical physical properties given above are derived from testing in a controlled laboratory environment. Results

derived from testing of field-applied samples may vary, depending on actual site conditions.

### Fatigue

Product has been Tested for stress fluctuation of 95 kg/cm<sup>2</sup> and 530 Kg/cm<sup>2</sup> for 2 million cycles at the rate of 330 cycles per minute to assess the Fatigue behaviour . The specimen did not show any distress and the results comply with requirements of Model code 1990 & 2010.

### Application instructions

#### Preparation

#### Foundation surface

The surface of the substrate should be free of oil, grease or any loose adherent material. If the concrete surface was defective or contains cementitious grout, this should be taken back to a solid base. Bolt-holes must be clean of any dirt or residue.

#### Water saturation

Several hours before grouting, the clean surface should be covered with water. Just before pouring the grout, excess water must be removed.

#### Formwork

Leak proof formwork must be constructed given the high fluidity of Conbextra BB72-IN. Therefore all the formwork joints must be perfectly sealed. In some cases it is practical to conduct formwork with mortar. It is also necessary that the top end of it exceeds the final filling level, thereby facilitating the subsequent curing with water. A minimum surface area should be kept mortar-free. Generally the width of the gap between the perimeter of the formwork and the plate should not exceed 150 mm on the pouring side and 50 mm on the opposite side. There should be no holes in the sides.

#### Mixture

For best results a mechanical mixer should be used. Amounts up to 50 kg a low speed mechanical drill is suitable set as a low speed paddle stirrer. For pumping it is essential that the number of mixers and the availability of operators is adequate to provide a continuous discharge. This may require the use of a holding tank provided with a gentle motion in order to maintain fluidity. First place 2/3 water in the mixer. Then with the mixer running, slowly and continuously add the contents of the Conbextra BB72-IN pack. The minimum mixing time required for a manageable and uniform mix must be 3 minutes. Then the remaining 1/3 of the water is added mixing for another 2 minutes.

#### Placement

In order to maximize the expanding effect grouting should be placed within 15 minutes of mixing. Conbextra BB72-IN can be placed in a single step, filling joints with a thickness up to 100 mm. The bolts should be fixed with mortar or resin before

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pouring Conbextra BB72-IN. Continuous pumping and pouring is essential. In both cases sufficient grout must be available before you start, and mixing time and the time required to prepare the next batch must be adjusted. Pouring should always be performed from the same side of the foundation to prevent the possible formation of air pockets. Ensure that the rate of advance of the grout is uniform. In the case of pumping, prior lubrication of all equipment (mixer, hopper, auger, hose ) using cementitious grout composed of two parts of cement and one of water in sufficient quantity is necessary so that the entire circuit which will be in contact with the grout remains lubricated. Lubrication should not be performed at height, but the same level as the machine. Pumping the mortar is carried out immediately after lubrication, eliminating the initial grout used in lubrication.

### Curing

To complete the operation, the areas exposed to the air must be cured. This should be done using a Concure curing membrane, continuous application of water and / or wet burlap.

### Cleaning

All tools and equipment can be cleaned with just water immediately after use. If material has hardened it must be cleaned mechanically or with a solution of Fosroc Acid Etch.

### Limitations

When the air temperature or the contact surface is 5°C or less, hot water (30-40 °C) is recommended to accelerate the development of resistance. For ambient temperatures below 10 ° C grout consistency must be pourable and formwork must remain at least 36 hours. At temperatures above 35°C the grout should be stored in shady place. Water should be used at a temperature below 20°C temperature for the mixture.



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### 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.

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### Packaging

Conbextra BB72-IN : 25 kg Bag

### Storage

Conbextra BB72-IN has a maximum storage period of 6 months in a dry place. If it is stored at a high temperature and high humidity this time will be reduced.

### Precautions

#### Health and Safety

Conbextra BB72-IN is alkaline and should not come in contact with skin and eyes. Avoid inhalation of dust while mixing. Gloves, goggles and mask should be used. If skin contact occurs, wash with water. Splashes in the eyes should be washed immediately with clean water and seek medical advice. If swallowed, seek medical advice. Do not induce vomiting. For more information consult the Safety Data Sheet of the product.

#### Fire

Conbextra BB72-IN is not flammable. For additional information, please refer to product SDS.

#### Additional information

Fosroc manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. This includes repair mortars, fluid microconcretes, chemical resistant epoxy mortars in addition to comprehensive package of protective coatings. In addition, a wide range of complementary products are available. This includes joint sealants, waterproofing membranes, grouts and anchors and specialised flooring materials.

\*Separate data sheets are available on these products.