

**Conbextra SG is an ultra-high performance grout specifically designed for structural grouted connections for Siemens wind turbine foundations.**

## Uses

- Structural Grouted Connections for Onshore Wind Turbine Foundations
- Segmental Concrete Wind Towers

## Advantages

- Non-shrink
- High flexural strength and modulus of elasticity without the addition of fibres, enhancing the flow characteristics of the grout.
- Quick return to service and removal of temporary supports due to high early strength build-up, even at low temperatures.
- High fatigue resistance
- Suitable for pumping or pouring over a large range of applications.
- No segregation or bleeding to ensure consistent final physical performance and to prevent pump blockages.

## Properties

The following properties were obtained in laboratory conditions at a temperature of 20°C, unless otherwise stated.

| Test method   | Typical result<br>@ 0.12 w/p ratio |                        |
|---|------------------------------------|------------------------|
| Final set:(EN196-3:1996)                              | <8 hours                           |                        |
| Expansion:  | 0-1 %                              |                        |
| Slump Flow: (EN12350-8)                               | >700mm                             |                        |
| Flow Trough: (EN 13395-2)                             | >450mm                             |                        |
| Flow (EN 1015-3)                                      | 280mm-320mm                        |                        |
| Density of fresh mixture                              | 2.28-2.38Kg/m <sup>3</sup>         |                        |
| Compressive Strength<br>(EN 12390-3, 150 x 150 cubes) | 1 Day                              | >20 N/mm <sup>2</sup>  |
|   | 7 Day                              | >70 N/mm <sup>2</sup>  |
|   | 28 Day                             | >100 N/mm <sup>2</sup> |
| Compressive Strength<br>(EN 1992-1-2)                 | C80/95                             |                        |
| Granulometry:   | 0-3 mm                             |                        |
| Water/powder ratio:                                   | 0.12(3.0l/25kg)                    |                        |
| Gap depth:  | 25-150mm*                          |                        |

\*For larger gap depths contact Fosroc Technical Dept

## Application instructions

### 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 or fixing pockets must be blown clean of any dirt or debris.

#### Pre-soaking

Several hours prior to grouting onshore, the area of cleaned foundation should be flooded with fresh water. Immediately before grouting takes place, any free water should be removed. Pay special attention to the bolt holes or fixing pockets.

#### Formwork

The formwork should be constructed to be leakproof as Conbextra SG is a free flowing grout. This can be achieved by sealing all joints very well.

In some cases it is practical to use a mortar formwork. The formwork should include outlets for the pre-soaking water when used onshore

#### Mixing

For best results a mechanically powered grout mixer should be used. For quantities up to 50kg a slow speed drill fitted with a high shear paddle is suitable. Larger quantities will require a high shear vane mixer.

Place the required quantity of clean water (3.0 litres per 25kg pail, 48 litres per 400kg bulk bag) into the mixing vessel for each bag to be used. Add the contents slowly to the mixer; mix continuously for 5 minutes, ensuring a smooth, even consistency is obtained. Note that during the first 2 or 3 minutes consistency will appear dryer.

#### Placing

Conbextra SG can be placed in thicknesses up to 150 mm\* in a single pour. Any bolt pockets must be grouted with mortar or resin prior to grouting between the substrate and the base plate. Continuous grout flow is essential.

Sufficient grout must be available prior to starting and the time taken to pour a batch must be regulated to the time taken to prepare the next one. The mixed grout should be poured only from one side of the void to eliminate the entrapment of air or surplus pre-soaking water. The grout head must be maintained at all times so that a continuous grout front is achieved.

For large volumes Conbextra SG can be pumped.

#### Curing

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

# Fosroc® Conbextra SG

## Cleaning

Conbextra SG should be removed from tools and equipment with clean water immediately after use.

Cured material can be removed mechanically, or with Fosroc Acid Etch.

## Estimating

### Supply

|               |                 |
|---------------|-----------------|
| Conbextra SG: | 25 kg bag       |
|               | 400kg Bulk Bags |

### Yield

Allowance should be made for wastage when estimating quantities required. Approximate yield is:

|                        |               |
|------------------------|---------------|
| Conbextra SG 25kg bag  | - 12.5 Litres |
| Conbextra SG 400kg bag | - 200 Litres  |

## Storage

Conbextra SG has a shelf life of 12 months if kept in a dry store in its original packaging. If stored in high temperature and high humidity locations the shelf life may be reduced.

## Precautions

### Health and safety

Conbextra SG is alkaline and should not come in 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. Do not induce vomiting.

### Fire

Conbextra SG is not flammable.

## Limitations

Conbextra SG should not be used at temperatures below 5°C or above 40°C. The substrate must be free of ice. When the air or contact surface temperatures are 5°C or below, it is recommended to use hot water (30°C - 40 ° C) to accelerate strength development. At temperatures higher than 35°C the mixed grout should be stored in the shade. Cool water (below 20°C) should be used for mixing the grout.

It should not be exposed to moving water or rainfall during application and prior to the final set.

For further information, please refer to the Safety Data Sheet of the product.

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### Important note

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