

## 6.03 FAST GROUT

### *General Purpose Non-Shrink Cementitious Grout*

#### PRODUCT DESCRIPTION

FAST Grout is supplied as a ready to use dry powder. The addition of a controlled amount of clean water produces a flowing no shrink grout for gap thicknesses up to 100mm. FAST Grout 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.

#### USES

FAST Grout is used for general purpose grouting 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.

#### PROPERTIES

The following properties were obtained at water: powder ratio of 0.20 and temperature of 20°C

#### TYPICAL PROPERTIES

**Compressive strength:** 1 day @ 25MPa  
7 days @ 45 MPa      28 days @ 66 MPa  
**Flexural Strength:** 1day @ 2.5 MPa  
7 days @ 10.0 MPa      28 days @ 11.0 MPa

#### Time for expansion:

Start: 5 minutes      Finish: 2 hours  
Fresh Wet Density Approximately 2160 kg/m<sup>3</sup>  
consistency used

**Young's Modulus:** 25 GPa

Expansion: An expansion of up to characteristics 1% overcomes plastic settlement in plastic material.

#### Setting Times:

Initial: 165 minutes      Final: 270 minutes

#### SPECIFICATION CLAUSES

**Performance specification:** All grouting shown on the drawing must be carried out with a pre-packaged cement based grout 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 49 MPa at 7 days and 66 MPa at 28 days. The storage and placement of the grout must be in strict accordance with the manufacturer's instructions. Supplier's specification all grouting where shown on the drawing must be carried out using FAST Grout as manufactured by FastChem and used in accordance with the manufacturer's data sheet.

#### 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.

**Presoaking:** Several hours prior to grouting, the area of cleaned foundation should be flooded with fresh water. Immediately before grouting takes place, any free water should be removed with particular care being taken to blow out all bolt holes and pockets.

**Base plate:** It is essential that this is clean and free from grease, oil or scale. Air relief holes should be provided to allow venting of any isolated high spots.

**Leveling 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 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 sacrificial semi dry sand and cement formwork. The formwork should contain outlets for presoaking.

**Unrestrained surface area:** This must be kept to a minimum. Generally the gap width between the formwork and the plate edge should not exceed 150mm on the pouring side and 50mm on the opposite side. It is advisable to have no gap at the flank sides.

## MIXING AND PLACING

For best results a mechanically powered grout mixer should be used when quantities up to 50kg are used, a slow speed drill fitted with a high shear mixer is suitable. 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 labor are available. The use of a grout holding tank with provision to gently agitate the grout may be required.

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

- Trowel able                      3.5 – 3.8 liters
- Flow able                        4.0 – 4.5 liters

The selected water content should be accurately measured into the mixer. The total contents of the FAST Grout 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 20°C, place the grout within 20 minutes of mixing to gain the full benefit of

the expansion process. FAST Grout can be placed in thicknesses up to 100mm in a single pour when used as an under plate grout. For thicker sections it is necessary to fill out FAST Grout with well graded silt free aggregate to minimize heat buildup. Typically a 10mm aggregate is suitable. 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 of grout must be regulated to the time to prepare the next one. Pouring should be from one side of the void to eliminate any air or presoaking water from being 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, FAST Grout 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. This should be done by the use of a Cure con curing membrane, continuous application of water and/or wet hessian.

## CLEAN UP

FAST Grout should be removed from tools and equipment immediately after use. Cured material can only be removed mechanically.

## LIMITATIONS

**Low temperature working:** When the air or contact surface temperatures are 5°C or below on a falling thermometer, warm water (30-40°C) is recommended to accelerate strength development. For ambient temperatures below 10°C the formwork should be kept in place for at least 36 hours. Normal precautions for winter working with cementitious materials should then be adopted.



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**High temperature working:** At ambient temperatures above 35°C cool water (below 20°C) should be used for mixing the grout prior to placement. Store bags of FAST Grout under cover and keep as cool as possible.

## ESTIMATING

**Packaging:** FAST Grout is supplied in 25kg moisture resistant bags.

**Yield:** Allowance should be made for wastage when estimating quantities required. The approximate yield of a 25 kg bag for different consistencies is: Consistency Trowel Flow able Yield (liter) 14 15

**Storage:** FAST Grout 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 may be reduced.

## PRECAUTIONS

**Health and safety:** FAST Grout contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier cream provides additional skin protection. In case of contact with the skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately do not induce vomiting. Material Safety Data Sheets (MSDS) are available to users of FastChem products on request to nearest FastChem distributor. Read MSDS, data sheet and label carefully before first use of any product.

**Fire:** FAST Grout is non-flammable.

## TECHNICAL SUPPORT

FastChem offers a comprehensive range of high quality, high performance construction products. In addition, FastChem offers technical support and on-site advice to specifiers, end users and contractors.

## NOTE

All reasonable care is taken in the compilation of this data sheet. All recommendations regarding use are made without guarantee as the conditions of use are beyond the control of the manufacturer.

## ALLIED PRODUCTS

FastChem manufactures a broad range of construction products including:

- Grouts
- Coatings
- Admixtures
- Adhesives
- Sealants
- Water Proof Coatings
- Floor Leveling Compounds
- Concrete Repair

## WARRANTY

This product is warranted to be free of defects in material and workmanship, and conform to FastChem Construction Chemicals ("FastChem") quality control standards. All recommendations, statements and technical data herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty or guaranty of any kind, expressed or implied including but not limited to, an implied warranty of merchantability or an implied warranty of fitness for a particular purpose.

FastChem Technologies (Pvt) Ltd. Pakistan

Head Office Lahore:

20-A. Commercial Area Pak Arab Housing  
Society Lahore.

Tel: 92(42)35803536 Mob: +92-322-4321261



المكتب للشرق الاوسط

٤٠٤، سوق، البحر، برج الخليفة،

دبي، متحده عرب الامارات،

رقم البريد: ٤٨٧١٧٧

Website: [www.fastchemtechnologies.com](http://www.fastchemtechnologies.com), Email: [info@fastchemtechnologies.com](mailto:info@fastchemtechnologies.com)