

# FLOWFILL GROUT GP

(Cementitious General Purpose Grout)

## DESCRIPTION

Flowfill Grout GP is a pre-packed cementitious grout requiring only the addition of clean water to produce a multi application non shrink grout at the site.

It is a special and unique blend of cements, micro silica, graded sands, water reducing agents and special auxiliary chemical to deliver expansion in the plastic state to compensate for shrinkage.

Flowfill Grout GP can be mixed in a range of consistencies by varying the amount of water used to produce a fluid to trowelable consistency grouts.

## USE

Flowfill Grout GP is formulated for a wide range of applications such as grouting of machinery base plates, anchor bolts, structural grouting of precast elements, grouting of crane rails, bridge seats, beams, columns and handrails. It is suitable for use in marine environments.

Typical areas of application are:

- ✓ Precast and prestressed panels
- ✓ Grouting in column base, base infilling
- ✓ Filling core holes, rod holes and defects in concrete
- ✓ Fill in grout for hollow block walls
- ✓ Joints between precast panels and other joints
- ✓ Tile slab panels
- ✓ Caulking of joints and pipes

## ADVANTAGES

- **Non shrink:** Delivers positive expansion in plastic stage.
- **Non segregation :** Highly stable segregation free grout.
- **Workability:** Can be pumped, trowelled or poured.
- **High early strength :** Ensure rapid installation.
- **Iron free :** No metallic iron is included in the mix as it is capable to introduce future deterioration due to rust expansion.
- **Other features :** Can be blended with clean local aggregate from 6mm to 10mm.
- **Chloride free:** Good early strength development without the use of chlorides.

## TYPICAL PROPERTIES

**Wet Density :** 2250 kg/cu.m producing 12.5 liters of grout per 25kg bag at a flow able consistency.

Flowable at 25°C : For a grout head of 250 mm with a gap of 30mm, it delivers a flow distance of 3 meters.

### Setting time:

Initial set : 5.5 hours  
Final set : 8 hours

### Compressive strength: (N/mm<sup>2</sup>)

Age	Trowellable	Flowable
1 day	26	22
7 days	56	50
28 days	81	65

Note : An unrestrained area should be kept to a minimum, otherwise grouting may be obscured.

## APPLICATION INSTRUCTIONS

**Planning:** Plan surface preparation, formwork, fixing base plate, mixing and placing equipment, manpower and quantity of grout required.

**Surface Preparation:** The substrate must be clean, sound and free from oil, grease, curing compound or any loose material. It must be mechanically abraded back to a sound concrete. Bolts or anchor holes must be clean and free from dust or loose material. This can be achieved by blowing clean the hole.

**Pre-soaking:** It is essential to pre-soak the concrete substrate prior to application of Flowfill grout GP. Pre-soak substrate with water for a minimum of 6 hours prior to grouting. Immediately before pouring, the excess water should be removed, all water in the anchor and bolt holes must be blown out and no traces of free water present whilst grouting.

**Base plate:** All traces of rust, oil or grease must be removed. It is essential to provide air pressure relief holes for venting.

**Formwork:** It is essential that the formwork be constructed to facilitate rapid continuous and complete filling at area to be grouted. It is essential that the formwork constructed be leak proof and watertight. Foam rubber strips of suitable sealants underneath the formwork are recommended. Formwork should allow gravity flow of grout between the base plate and foundation ensuring grout is kept in full contact with base plate and concrete substrate.

**Unrestrained Surface:** As Flowfill Grout GP is an expanding grout, unrestrained areas must be kept to minimum. It is advisable not to have any unrestrained areas.

**Low temperature working:** Normal precautions for winter working cementitious materials should then be applied. At temperatures below 5°C the cure rate and strength development rate will be dramatically reduced. If early strength is required, it is advisable to use heated water and condition Flowfill Grout GP to 25°C. Do not exceed this temperature.

**High temperature working:** At temperatures above 30°C, it is advisable to use water below 20°C when mixing grout. All materials must be kept cool and away from direct sunlight with installation area to be shaded by erecting shade screeds. If ambient temperatures are excessive, perform grouting in early morning or late evening.

### Mixing:

Required Water per 30 kg of Flowfill Grout GP:

For Trowable consistency - 4.8 – 5.2 lit

For Flowable consistency - 5.4 – 6 lit

Flowfill Grout GP is supplied in a ready to use form requiring only the addition of fresh clean water. For optimum results, Flowfill Grout GP must be mixed with a mechanical forced action mixer with a high shear stirrer. It is essential that the grouting operation is continuous hence ensure sufficient labour and mixing capacity is available.

**Do not mix by hand:** The required water content should be accurately measured into a mixing vessel. Slowly add the powder while mixing. The mixing should continue for a maximum of 5 minutes until a uniform homogeneous consistency is obtained.

**Do not add additional water:** Discard any unused grout that has stiffed or hardened.

**Placing:** It is essential that at ambient temperatures the grout is placed within 20 – 25 minutes of mixing and this will ensure the expansion process will be maximized. Flowfill Grout GP can be placed in thickness ranging from 20mm to 120mm in one single application. Where thickness is greater than 120mm, special procedure may be necessary.

Avoid trapping air and water by placing grout from one side only. It is recommended that a suitable head box be used to ensure continuous flow of grout. Ensure entire area to be grouted is filled by bringing level to above underside of machine base plate and remain at this level throughout the placement. The grout head must be maintained at all times so that a continuous grout front is achieved. Do not use mechanical vibrators to assist in flow as this will cause segregation of aggregates. For large areas it is recommended that Flowfill Grout GP be pumped.

### CURING:

Curing will not be required in intermittently or totally submerged situations. However when cast above water exposed areas should be thoroughly cured.

On completion of grouting exposed area should be covered with wet Hessian or plastic sheeting. Keep grout covered for a minimum of 24 hours. Remove formwork no sooner than 24 hours after completion of grouting and continue to cure with wet Hessian, plastic sheeting or water. Lack of sufficient curing could result in plastic cracking and drying shrinkage on the surface. The surface should be protected for at least 7 days with a curing compound or wet Hessian, plastic sheeting or water.

#### **CLEAN UP:**

Flowfill Grout GP should be removed from tools and equipment with clean water immediately after use.

#### **PACKING**

Flowfill Grout GP is packed in 30 kg bags.

#### **STORAGE & SHELF LIFE:**

Flowfill Grout GP as supplied shall be stored in a cool and dry place away from sunlight, moisture and high humidity and have a shelf life of 12 Months in the original packing.

#### **PRECAUTION:**

1. Do not add additional water other than specified.
2. For large areas apply grout in a continuous operation
3. Do not apply in areas less than 20mm depth
4. Unrestrained areas must be kept to a minimum
5. Cure time and set will be extended when applied at temperatures lower than 5 °C

#### **HEALTH & SAFETY:**

Flowfill Grout GP contains cement and other filler materials which may cause sensitization by skin contact. Avoid contact with skin and eyes. In case of contact with eyes, rinse the eye with plenty of water and seek medical advice. Avoid inhaling the dust particles by wearing mask. Wear suitable protective clothing, gloves and goggles while handling.

#### **ADDITIONAL INFORMATION**

"Bostik India P Ltd.," also supplies other construction chemicals, concrete repair and rehabilitation products including protective coatings, epoxy and polyurethane coatings and floor toppings, water proofing, concrete repair products, tile adhesives and grouts, adhesives and sealants based on PU and elastomeric rubbers for varied application in packaging, foot ware etc.,

#### **WARRANTY**

Whilst Bostik India P Ltd., strives to ensure that any advice, information or recommendation given are appropriate and correct, it cannot accept any liability directly or indirectly arising out of the products, since the method and place of application of the products are beyond its control. Its guarantee is therefore limited to the quality of materials delivered.

## Our Authorized Distributors



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