



BOSTIK

Flowfill Non-shrink Grout GP

MULTI-PURPOSE NON-SHRINK GROUT

TECHNICAL SHEET 11/22/2022

DESCRIPTION

Flowfill Grout GP is a multi-purpose, non-shrink, free flowing cementitious grout complying with ASTM C 1107 Standard. Flowfill Grout GP is based on Portland cement, graded aggregates and superplasticizer that yielded excellent compressive strength while maintaining the optimum workability. It has special capability of compensating the plastic shrinkage loss due to cement hydration thus ensuring that there is no volume change during pouring and after curing.

FEATURES AND BENEFITS

- Gaseous expansion system compensates for shrinkage while in the plastic state.
- Easily mixed for grouting at a desired consistency and application: dry packed, plastic or pourable Easy to use, requires only the addition of water.
- Contains no iron particles and will not corrode, rust or cause staining with the material it contacts even under consistently moist conditions. Lower water/cement ratio, higher density, produces high compressive strength, reduce drying shrinkage and increased permeability. Excellent flow characteristics, when used in fluid consistency, will fill intricate cavities
- Complete void filling resulting from gaseous expansion in plastic state

RECOMMENDED USES

- For general-purpose grouting
- Pre-cast and pre-stressed wall panels, beams and columns.
- Grouting in -column based, base in-filling.
- Filling core holes, rod holes and defects in concrete
Fill in grouts for hollow block walls
- Joints between pre-cast panels and other joints Fill slab panels
- Caulking of joints and pipes

SURFACE PREPARATION

Surface must be clean, sound and free from dust, dirt, grease or other bond-inhibiting contaminants. The concrete should be relatively flat, repair deep pockets



or grooves that may hold saturation water, or may hinder the flow of the grout. Ensure concrete has fully cured and has sufficient strength and stiffness before application of the grout. Bolts and anchor holes must be thoroughly clean and free from dust or loose material.

MIXING

Flowfill Grout GP is supplied in a ready to use form requiring only the addition of clean water. For best results, a Flowfill Grout GP must be mixed with a mechanical forced action mixer with a high shear stirrer to obtain a uniform, lump free consistency. Allow the mixture to stand to remove entrapped air before pouring. It is essential that the grouting operation is continuous hence ensure sufficient labor and mixing is available.

The selected water content should be accurately measure into the mixing vessel. Slowly add the dry powder while mixing. The mixing should

continue for a maximum of 5 minutes until a uniform homogenous consistency is obtained. Discard any unused grout that has stiffened or hardened.

SATURATED SURFACE DRY (SSD)

The concrete must be saturated with water before grouting to avoid shrinkage due to rapid absorption of water by the concrete from the grout. It is recommended to maintain the SSD substrate with water for prior to grouting. Excess water should be removed before pouring the grout, all water in the anchor and bolt-holes must be blown out and ensure that no traces of free water is present while grouting.

BASEPLATE

All traces of rust, oil or grease must be removed. It is important to provide air pressure relief holes for venting.

FORMWORK

It is important 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-proofed 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 SUBSTRATE

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

BELOW TEMPERATURE WORKING

Normal precautions for winter working with cementitious material should then be adopted. At temperatures below 5°C the cure rate and strength development will be reduce. If early strength is required it is advisable to use heated water/warm water and condition Flowfill Grout HS 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 the grout. All materials must be kept cool, away from direct sunlight with installation area be shaded by erecting shade screeds. If ambient temperatures are excessive, perform grouting in early morning or late evenings.

PLACING

It is essential that at ambient temperature (approximately 20°C) the grout is placed within 25 minutes of mixing and this will ensure the expansion process will be maximized. Flowfill Grout GP can be placed in thickness ranging from 10mm to100 mm in one single application. Where the thickness is greater than 100mm, special procedures may be necessary. Consult

your local Bostik Technical/R&D Dept. for advice.

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 grout 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 aggregate. For large areas it is recommended that Flowfill Grout GP be pumped. Contact your local Bostik Office for more information.

CURING

Grouts require enough moisture for curing. Curing is not required in areas intermittently or totally submerged to water.

However,for exposed surfaces , applied grouts must be protected from excessive moisture loss by keeping areas wet for a given time or with the use of appropriate curing compound. Exposed area can be protected by continued sprinkling of water or by covering with wet hessian, or plastic sheeting. For areas that cannot be continually moist, Bostik Emulsion 57 is recommended to prevent excessive moisture loss. Remove formwork no sooner than 24 hours after completion of grouting. The surface should be kept moist or protected with curing agent for at least 7 days until the grout has sufficiently cured. Lack of sufficient curing could result in plastic cracking and drying shrinkage on surface.

CLEANUP

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

TYPICAL PROPERTIES

MIXING CONSISTENCY

The table is guide to the typical water addition requirements for various consistencies . Liter of water per 25kg bag

	TROWELLABLE	FLOWABLE
Range	3.5- 4.0	4.0-5.0
Test Levels	3.5	4.0

COMPREHENSIVE STRENGTH

Tested in accordance to ASTM C 109

AGE	TROWELLABLE	FLOWABLE
3 days	25 MPa	20 MPa
7 days	30 MPa	28 MPa
28 days	45 MPa	41 MPa

SETTING TIME

	TROWELLABLE	FLOWABLE
Initial Set	2 - 3 hours	4 - 5 hours
Final Set	4 - 5 hours	6 - 7 hours
Bleeding	0%	0%

FLOW CHARACTERISTICS

Using Flow Cone as per ASTM C 1708

Initial Flow	145-150mm
Flow after 15 minutes	143-148mm
Flow after 25 minutes	140-142mm

COVERAGE

The approximate yields are obtained if mixed in accordance with recommended procedures and accurately measured water content. Based on ASTM C 1107

	TROWELLABLE	FLOWABLE
Volume of mixed product	12.7 Liters	13.3 Liters
Density of mixed product (Kg/m ³)	2220 (Kg/m ³)	2180 (Kg/m ³)
Required number of bags / cubic meter (m ³)	79 bags	76 bags

DISCLAIMER:

The information in this Technical Data Sheet is intended for the assistance of users and is of a general nature. It reflects the extent of our knowledge and experience of our products and is based on tests which we believe to be reliable. However, no guarantee of accuracy can be given due to the wide range of surfaces, environmental and field conditions and variations encountered in raw materials, manufacturing equipment and methods at the place where the work is performed. Some of these will be beyond our knowledge and control. Users are asked to make sure that the TDS in their possession is the latest issue. Likewise, we recommend users carry out their own tests to determine the suitability of the product for their particular purposes.

Any claim for a defective product must be filed within 30 days of discovery of a problem and must be submitted with written proof of purchase. Claims are not transferrable or assignable and extend only to the original purchaser/user. Bostik reserves the right to inspect and alleged failure and no responsibility will be accepted unless Bostik is given the opportunity to do so. Bostik limits its liability to the replacement of the product/s proven faulty.

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