

# Flo-Grout BP

Non shrink cementitious precision grout



## Description

Flo-Grout BP is a pre-mixed, pre-packed, high early strength, cementitious grout. Flo-Grout BP is compound of cement, selected additives, well graded fillers, and non-reactive aggregates designed to give excellent flow properties, shrinkage compensation, and high compressive strength.

## Applications

Flo-Grout BP is ideally designed for grouting areas beneath bridge bearing pads, heavy stanchion bases and base plates where high early strength grout is required.

## Advantages

- ▲ Non-shrink grout.
- ▲ Suitable for use in hot areas.
- ▲ Extremely dense and low permeability.
- ▲ High initial and ultimate early strength development allowing for rapid installation.
- ▲ Good flow, can be poured or pumped into variable gap widths down to 10 mm.
- ▲ Easy to apply, single component, requires only addition of water.
- ▲ Chloride free.

## Standards

Flo-Grout BP complies with U.S. Corps of Engineers Specifications CRD –C588-79 and CRD – C 621 in term of workability and ASTM C1107-02, Grade A.

## Method of Use

### Substrate Preparation

The Substrate should be sound, clean and free from contamination. Surface Laitance should be removed by acid etching.

All surfaces should be pre-soaked with clean water for a minimum period of 4 hours prior to grouting.

### Mixing

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used.

## Technical Properties:

Compressive strength: ASTM C109/109M-11	≥ 45 MPa @ 1 day ≥ 65 MPa @ 7 days ≥ 80 MPa @ 28 days
Flexural strength: ASTM C348	> 10 MPa @ 28 days
Colour:	Grey
Bleeding: ASTM C940	Nil
Initial setting time: ASTM C191	3 - 3.5 hr @ 25°C
Final setting time: ASTM C191	4 - 4.5 hr @ 25°C
Early volume change: ASTM C940	Up to +3%
Height change at hard- ened stage:	Up to +0.2% @ 28 days
Fresh wet density:	2.1 ± 0.1 g/cm <sup>3</sup>

*Note: Typical properties for Flo-Grout BP are obtained @ 3.75 litre/25 kg @ 25°C.  
Compressive strength @ 1 day is under restraint.  
Compressive strength and Flexural strength @ 28 days are under wet cure @ 25°C.*

Depending on the consistency required, 4.5 litre (Fluid) or 3.75 litre (Flowable) of clean water should be added to a clean container. For Flo-Grout BP (WWA) only 2.40 litre of clean water per 25 kg (mixed) should be added.

The 25 kg powder is then added slowly to the water while mixing continuously with low speed mixer/drill (400 - 600 rpm).

Mixing time should be continued for 3 minutes until a uniform consistency is obtained.

## Placing and Finishing

### Bearing plate:

Enough material should be available to achieve continuous fill and to complete the work. Pouring of the mixed grout should be started from one side only to avoid air entrapment.

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To obtain maximum flow distance, a side shutter feed between 100 - 250 mm high should be erected and used to build the required head.

## Formwork:

As the mixed grout possesses high fluidity characteristics, all formworks and shutters should be water tight. This can be obtained by sealing underneath the formwork and at the joints by using appropriate mastic.

The unrestrained areas should be kept at a minimum due to the expansion nature of Flo-Grout BP.

## Curing

As Flo-Grout BP is a cementitious material, it should be cured in a similar method to concrete.

Curing can be conducted using a good concrete curing compound such as Setseal 44 or by using wet hessian sheets covered with polyethylene sheets.

## Notes:

- ▲ At low temperatures (below 8°C), warm water is recommended to achieve the early strength. And the formwork is recommended to be kept longer time.
- ▲ At high temperatures (35°C and above), cold water (less than 20°C) must be used for mixing.

## Cleaning

All tools should be cleaned immediately after application using fresh water. Hardened materials must be cleaned mechanically.

## Packaging

Flo-Grout BP is available in 25 kg bags.

## Thicknesses and Size Limitations

Flo-Grout BP can be applied in a single layer at thickness between 10 - 100 mm. For greater thicknesses, Flo-Grout BP (WWA) should be used. Flo-Grout BP (WWA) contains 8 - 12 mm well graded washed aggregates to minimize exotherm.

## Yield

Approximately 13 - 14 litre per 25 kg bag for Flo-Grout BP depending on consistency.

## Storage

Flo-Grout BP has a shelf life of 12 months from date of manufacture if stored at temperatures between 2°C and 50°C in original unopened bags.

If these conditions are exceeded, DCP Technical Department should be contacted for advice.

## Cautions

## Health and Safety

Flo-Grout BP may cause irritation to skin or eyes. In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary.

For further information refer to the Material Safety Data sheet.

## Fire

Flo-Grout BP is nonflammable.

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### Note:

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