

Capgrout® GP

Expanding Cementitious Construction Grout

Uses

Capgrout GP general purpose grouting is used where it is essential to eliminate shrinkage when completely filling the void. It can also be used for wide range of fixings. These include:

- Machine beds and base plates.
- Stanchion bases, struts, railings, and guardrail assemblies.
- Filling distance between concrete walls or other sections.
- Filling of shutter tie rod openings.
- Anchoring of tie bars, and bolts.
- Pile top re-profiling.

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.

Standards compliance

Capgrout GP complies with ASTM C1107.

Description

Capgrout GP cementitious grout is supplied as a ready to use dry powder. The addition of a controlled amount of clean water produces a flowing non-shrink grout for gap thicknesses up to 100 mm. Capgrout GP 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.

Properties

Appearance	Gray Cementitious Powder	
Dry Specific gravity (gr/cm ³)	Approx. 1.71 @ 20°C	
Fresh Wet Specific gravity (gr/cm ³)	Approx. 2.02 @ 20°C	
Compressive strength (Mpa) (ASTM C109/109M-02)	1 Day	25
	7 Days	45
	28 Days	62
Flexural strength (Mpa) (BS6319, Part 3 : 1998)	1 Day	2
	7 Days	7
	28 Days	9.5
Time to Expansion	Start: 15 minutes Finish: 3 hours	
Expansion (ASTM C827-87)	Between 2% to 4% @ 24 hours	
Total chloride ion content (as % of mass of cement)	< 1%	
Application temperature	4 - 50°C	
Service temperature	-20 - 200°C	

Instructions for use

Preparation:

- Concrete 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 and fixing pockets must be blown clean of any dirt or debris.

- Pre-soaking

For a minimum of 2 hours prior to grouting, the area of cleaned substrate should be flooded with fresh water. Immediately before grouting takes place, any free water should be removed. Particular care should be taken to blow out all bolt holes and pockets.

- Base plate

It is essential that this is clean and free from oil, grease or scale. Air pressure 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 leakproof. 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 include outlets for pre-soaking.

- Unrestrained surface area

This must be kept to a minimum. Generally the gap width between the perimeter formwork and the plate edge should not exceed 75 mm on the pouring side and 25 mm on the opposite side. It is advisable where practical to have no gap at the flank sides.

Mixing:

For best results a mechanically powered grout mixer should be used.

Consistency of mixed grout:

The quantity of clean water required to be added to a 25 kg bag to achieve the desired consistency is:

Trowellable: 2.50-2.80 litres

Flowable: 2.8-3.2 litres

The selected water content should be accurately measured into the mixer. The total contents of the Capgrout GP 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.

Grouting:

At 25°C place the grout within 15 minutes of mixing to gain full benefit of the expansion process. Capgrout GP can be placed in thicknesses up to 100 mm in a single pour when used as an underplate grout. For thicker sections it is necessary to fill out Capgrout GP with well graded

Capgrout® GP

10mm, silt free aggregate to minimize exotherm. If bulking with aggregate is used the ratio shall not exceed 1:1. The properties of a bulked grout will differ from those published in this data sheet. 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 must be regulated to the time taken to prepare the next one. Pouring should be from one side of the void to eliminate any air or pre-soaking water becoming trapped under the baseplate. 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 Capgrout GP 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 Capcure® curing membrane, or continuous application of water and/or wet hessian.

Cleaning:

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

Packaging

Capgrout GP is available in 25 kg bags.

Storage

Capgrout GP has a minimum shelf life of 12 months at 20°C if kept in a dry store in the original, unopened packs. The shelf life will be reduced at higher ambient temperatures.

Precautions

Health and safety:

Capgrout GP is alkaline and should not come into 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.

Fire:

Capgrout GP is non-flammable.