

Techno Grout GP

General purpose non-shrink cementations grout

Uses

Techno Grout GP general purpose grouting is used 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 Concrete repair.

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.

Description

Techno Grout GP cementations 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.

Techno Grout GP is a blend of Portland cement, graded filler sand 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.

Specification

Performance specification

All grouting where shown on the drawing must be carried out with a pre-packaged cement based product 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 45N/mm² at 7 days and 60 N/mm² at 28 days.

The storage, handling and placement of the grout must be in strict accordance with the manufacturer's instructions.

Properties

The following results were obtained at water: powder ratio of 0.19 and temperature of 25°C.

Compressive strength

BS 1881 part 116 1983 : 26 N/mm² @ 1 day
55 N/mm² @ 7 days
64 N/mm² @ 28 days

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Flexural strength

BS 4551 1980 : 2.5 N/mm² @ 1 day
9.0 N/mm² @ 7 days
10.0 N/mm² @ 28 days

Time for expansion

Start : 15 minutes
Finish : 2 hours

Fresh wet density

: Approximately 2170 kg/m³
Depending on actual consistency used.

Young's modulus

: 28 kN/mm²
ASTM C 469-83

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

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 before grouting takes place, any free water should be removed. substrate should be flooded with fresh water. Immediately 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.

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.

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. Larger quantities will require a high shear vane mixer. Do not use a colloidal impeller mixer.

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Consistency of grout mix.

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

Trowelable
: 3:3,5 liters
Flowable
: 3,5:4,5 liters

The selected water content should be accurately measured into the mixer. The total contents of the Techno Grout 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.

Placing

At 25°C place the grout within 15 minutes of mixing to gain full benefit of the expansion process.

Techno Grout GP can be placed in thicknesses up to 100 mm in a single pour when used as an under plate grout.

For thicker sections it is necessary to fill out Techno Grout GP with 10kg of well graded 10mm. silt free aggregate to minimize exotherm. If bulking with aggregate is used the ratio shall not exceed 1:1.

Curing

On completion of the grouting operation, exposed areas should be thoroughly cured This should be done by the use of Techno cure curing membrane, or continuous application of water and/or wet Hessian

Cleaning

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

Limitations

Grouts should not be placed in any unrestrained situation, i.e. base plate plinths, etc. Failure to comply may lead to crack development in the grout.

Estimating

Supply

Techno Grout GP : 25 kg bags

Note: Allowance should be made for wastage when estimating quantities required.

Storage

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Techno Grout GP 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 will be reduced medical advice sought.

Fire

Techno Grout GP is non-flammable.

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