

StrongGrout F70

Flow and High Strength, Dual Expansion - Shrinkage Compensated Grout

Descriptions

StrongGrout F70 is a special formulated grout, which impart controlled expansion in both the plastic and hardened states. **StrongGrout F70** is a pumpable non-shrink, selflevelling, cementitious grouting mortar with extended working time to suit local ambient temperature. It is supplied as a ready to use dry powder.

The addition of a controlled amount of clean water produces a free-flowing precision grout for gap thickness up to 125mm. In addition, the low water requirement ensures high early strength and long-term durability. The filler grading minimizes segregation and bleeding over a wide range of application consistencies.

Standard Compliance.

- ASTM C109 ; ASTM C348
- ASTM C827; ASTM C230
- ASTM C940 ; ASTM C403
- ASTM C1202

Uses

StrongGrout F70 is suitable for repairs to concrete structures and the following grouting works with clearance of 5 mm and more.

- Machine foundations
- Concrete anchors
- Rail beds / Bridge bearings
- Cavities / Gaps / Recesses
- Honeycombs

Advantages

- Easy to mix and apply
- Two step expansion in both the plastic and hardened states
- High Early Strength enables rapid installation and early operation of plant
- Excellent flow and flow retention
- Non-toxic and non-corrosive
- Chloride and hydrogen free gas expansion
- Impact and vibration resistant
- Suitable for pumping or pouring over a large range of application consistencies

Physical Properties

Water / powder ratio = 0.18 (28 °C)

Test Method	Typical Result
Compressive Strength ASTM C109	> 30 N/mm ² @ 1 day > 55 N/mm ² @ 7 days > 65 N/mm ² @ 28 days
Flexural strength ASTM C348	> 8 N / mm ² @ 28 days
Flow of Grout ASTM C230	>240 mm
Expansion ASTM C827	0.4 – 2.0 %
Bleeding ASTM C940	< 0.2 %
Setting Time ASTM C403	4 hr (initial) 6 hour (final)
Fresh wet density	2,200 ± 0.05 kg/m³
Chloride Ion Permeability (Coloumbs) ASTM C1202	1.2 mm/ mm

Application Instructions

Surface Preparation

Concrete surfaces should be clean, sound and free from oil, grease, laitance and loosely adhering particles .Metal surfaces (iron and steel) should be free from scale, rust, oil and grease.All absorbent surfaces must be well saturated with clean water, but be free of any surface water or puddles prior to the application of **StrongGrout F70** Form a leak proof formwork as **StrongGrout F70** is a free flowing grout. The gap width between the perimeter formwork and the plate edge should not exceed 150mm on the pouring side and 50mm on the opposite side.

Mixing

StrongGrout F70 must be thoroughly mixed. A forced-action mixer is essential. Mixing in a suitably sized drum or pail using an approved spiral paddle in a slow speed (400/500 rpm) heavy-duty drill is suitable. Mixing of part bags is not recommended. It is essential that machine mixing capacity and labour availability is adequate to enable the placing operation to be carried out continuous grouting works. Measure 4.0 – 5.0 litres clean water and pour three-quarters into the drum.

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With the machine in operation, add one full 25 kg bag of **StrongGrout F70** and mix for one minute before adding the rest of the water. Mix for a further 2 to 3 minutes until a smooth even consistency is obtained. The quantities mixed may be scaled up as required. When the drill and paddle miximethod is used, the complete 2.4 – 2.8 litres of water should be placed in the mixing drum. While the paddle rotation, add one full 25 kg bag of **StrongGrout F70** and mix or 2 to 3 minutes until a smooth even consistency is achieved.

Application

After mixing, stir lightly with a spatula for a few seconds to release any entrapped air. The grout is then poured immediately into the prepared formwork. When carrying out base plate grouting, maintain sufficient pressure head for uninterrupted mortar flow. The prepared formwork must be firmly in place and kept watertight.

When placing grout over a large area, it is important to maintain a continuous flow throughout. Organize proper work sequence to ensure uninterrupted flow. In large areas, pump **StrongGrout F70** with a heavy-duty diaphragm pumps. Screw feed and piston pumps may be used. For sections thicker than 50mm, it is necessary to use **StrongGrout F70 Premix**, with graded 10mm silt free aggregates to minimize temperature rise generated during the curing stage. The quantity of aggregates should not exceed 1 part aggregates to 1 part **StrongGrout F70** by weight. For such mixes, a conventional concrete mixer and pump may be used. To further ensure that air entrapped during mixing allowed to fully escaping, it may be necessary to make breather holes. Use steel rods or chains to assist the flow of grout where necessary.

Curing

On completion of the grouting operation, all exposed areas that are not to be cut back should be thoroughly cured. Apply suitable curing membrane or continuous application of water after initial set for curing purpose

Packing & Size

StrongGrout F70 25 kg bag

Yield

The quantity of clean water required to add to a 25kg bag grout to achieve the desired consistency is

Consistency	Water	Yield
Trowelable	4.0 litres	13.15 litres
Flowable	4.5 litres	13.25 litres
Fluid	5.0 litres	13.80 litres

StrongGrout F70 25 kgs will yield 13.2 liters or 76 bags for 1 m³ mixed grout.

Storage

StrongGrout F70 should be stored on pallets in dry conditions. Under these conditions, the product will have a shelf life of 12 months.

Precaution

StrongGrout F70 is alkaline and should not be in contact with skin and eyes. Avoid inhalation of dust during mixing. Wear gloves, goggles and dust mask.

Technical Support

Estrong manufactures and sells a comprehensive range of high performance, high quality of product for both new and existing concrete surfaces. In addition, the company offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.