

# StrongGrout G50

## Premix

### General Use Non Shrink Microconcrete

#### Description

**StrongGrout G50 Premix** is a high performance micro concrete with controlled expansion in the plastic stage, supplied as a ready to use, blend of dry powder and 3 mm – 10 mm Graded aggregate. **StrongGrout G50 Premix** is formulated with Portland Cement, graded fillers and chemical additives with controlled expansion in the plastic state whilst minimising water demand to achieve high strength. The fillers grading is designed to aid uniform mixing and to eliminate segregation under pumping pressures. The low water requirement ensures fast strength gain and long-term durability..

#### Uses

**StrongGrout G50 Premix** is used for general purpose grouting with thick section. It is recommended for grouting of base plate, strengthening and repairs of structural concrete, such as columns, beams, decks.

#### Advantages

- Prepacked material, ready to use only with addition of water.
- High early strength and medium high strength.
- Fluid consistency allows self compaction.
- Non shrink, provide expansion at plastic stage
- Non chloride content.
- Low alkali content minimises risk of alkali-silica reaction.
- Low permeability provide maximum protection against CO<sub>2</sub> and chloride.

#### Standards Compliance

- ASTM C109 : 2020
- ASTM C1202 : 2016
- ASTM C940 : 2016

#### Physical Properties

Test Method for Fresh wet density:  
Water powder ratio at 0.13 ( 28°C )

Test Method	Typical Result
Compressive Strength ASTM C109	<b>&gt;18 N/mm<sup>2</sup> @ 1 day</b> <b>&gt;35 N/mm<sup>2</sup> @ 7 days</b> <b>&gt;50 N/mm<sup>2</sup> @ 28 days</b>
Expansion Characteristics ASTM C940:1998	1.0 – 2.0 %
Time of Expansion	Start : 15 min Finish : 2 hours
Fresh wet density	<b>2,200 ± 0.05 kg/m<sup>3</sup></b>
Rapid Chloride Permeability (Coloumbs)	1.2 mm/ mm

#### Application instructions

##### Preparation

The unrestrained surface area of the repair must be kept to a minimum. The formwork should include drainage outlets for pre-soaking and, if beneath a soft, provision for air venting. Provision must also be made for suitable access points pour or pump the mixed micro-concrete into place. Substrate shall be free from any contaminated material, loose particle, oil, paint, grease etc. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.

Expose fully corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process.

Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with the clean water immediately after grit-blasting to remove corrosion products form pits and imperfections within its surface.

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### Substrate Priming

Substrates should be saturated by filling the prepared formwork with clean water. Prior to the application of **StrongGrout G50 Premix** any excess water should be removed.

### Mixing

**StrongGrout G50 Premix** must be thoroughly mixed. A forced-action mixer is essential. Mixing in a suitably sized drum using an method 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 30 kg bag of **StrongGrout G50 Premix** and mix for 2 to 3 minutes until a smooth even consistency is achieved with approved spiral paddle in a slow speed (400/500 rpm) heavy-duty drill is acceptable. Free-fall mixers must not be used. 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 continuously. Measure 4 – 4.5 litres clean water and pour three-quarters into the mixer. With the machine in operation, add one full 30 kg bag of **StrongGrout G50 Premix** 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 a

### Placing

The mixed material should be placed within 30 minutes of mixing in order to gain the full benefit of fluidity and of the expansion process.

### Curing

The formwork should be left in place until the compressive strength of the **StrongGrout G50 Premix** is 15 N/mm<sup>2</sup> or as otherwise specified by the Supervising Officer. StrongGrout G50 must be cured immediately after the formwork is stripped, sprayed with a liquid curing membrane such as Strongcure P.

### Packing & Size

**StrongGrout G50 Premix** is 30 kg bag.

### Yield

#### **StrongGrout G50 Premix**

30 kg bag yield → 15.2 ltr  
or 66 bags to yield 1 m<sup>3</sup> (based on standard water, actual yields depending on water added)

### Limitation

**StrongGrout G50 Premix** is not suitable to be used for unrestrained grouting works.

### Cleaning

**StrongGrout G50 Premix** should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

### Storage

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

### Precaution

**StrongGrout G50 Premix** should not be in contact with skin and eyes. Avoid inhalation of dust during mixing. Wear gloves, goggles and dust mask.

### Technical Support

Estrong offers a comprehensive range of high performance, high quality of repair 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.

### Additional Information

Estrong manufactures and offers a wide range of complementary products, which includes waterstops, waterproofing