

# EPO GROUT

Cement Based, Shrinkage Compensated Fluid Grout



## DESCRIPTION

**EPO GROUT** is a ready to use free flow, high strength and non-shrink product in powder form, which requires only the addition of water to produce grout. It is a careful blend of Portland cement, graded sand, water reducing agents and auxiliary expansive modifying agents to compensate for shrinkage in both the plastic and the hardened states.

## TYPICAL APPLICATIONS

**EPO GROUT** is formulated for a wide range of applications such as:

- Grouting of machinery base plates
- Anchor bolts
- Structural grouting of precast elements
- Grouting of crane rails, bridge seats, beams and columns -handrails.
- Repairing material for concrete for thickness between 10 – 100 mm

## ADVANTAGES

- **Workability:** Fluid consistency can be pumped or poured to penetrate heavily reinforced concrete.
- **Reliability:** Always fresh factory controlled pre-packed mix, eliminates site batching variations.
- **Dual expansion:** Compensation for shrinkage in both plastic and hardened states.
- **Adhesion:** Free flowing consistency ensures full surface contact with existing deteriorated concrete minimizing loss of bond between newly poured grout and existing concrete.
- **Chloride free:** No chlorides are added in the mix.
- **Iron free:** No metallic iron included as this causes deterioration due to rust expansion.

## PRODUCT DATA

<b>Form</b>	Powder
<b>Color</b>	Grey
<b>Packing</b>	25 Kg Kraft Bag
<b>Consumption</b>	2.0 Kg/m <sup>2</sup> / mm
<b>Layer Thickness</b>	Up to 100 mm
<b>Shelf life</b>	12 months, indoor storing non-open packaging under controlled condition
<b>Consistency (Water Ltr/Powder Kg)</b>	
Flowable consistency	3.25 Ltr/20Kg (± 0.25)
Trowelable consistency	2.75 Ltr/20Kg (± 0.25)

## TECHNICAL SPECIFICATION

Test Name	Standard	Average Result
<b>Density</b>	DIN 18555 PART-2	2.30 ± 0.10 Kg/Ltr
<b>Compressive Strength</b> 1 day 3 days 7 days 28 days	ASTM C 942	> 40.0 N/mm <sup>2</sup> > 63.0 N/mm <sup>2</sup> > 65.0 N/mm <sup>2</sup> > 70.0 N/mm <sup>2</sup>
<b>Flexural Strength</b> 7 days	ASTM C 580	> 16 MPa
<b>Tensile Strength</b> 7 days	ASTM C 307	> 1.5 MPa
<b>Working Time</b>	DIN 18555-PART-8	150 ± 30 min
<b>Mortar Consistency Mean Flow (mm)</b>	ASTM C 1437-2007	> 270
<b>Mortar Consistency Mean Flow (%)</b>		> 200
<b>Air Content</b>	ASTM C 138	< 3.0%
<b>Setting Time (min):</b> Initial Setting Time Final Setting Time	ASTM C 953	> 180 min < 300 min
<b>Linear Expansion</b>	ASTM C 531	5.3 x 10 <sup>-6</sup> °C <sup>-1</sup>
<b>Water Absorption</b>	ASTM C 413	< 2.0 %
<b>Chloride content</b>	ASTM C 1218	< 0.1 %
<b>Yield</b>	ASTM C 138	12.3 Ltr/25 Kg Bag
<b>Early Height change</b>	ASTM C 827	0.7 %
<b>Height Change of Moist Cured Hardened Grout</b>	ASTM C 157	0.36 %
<b>Height Change</b> 1 day 3 days 14 days 28 days	ASTM C 1090	0.07 % 0.08 % 0.08 % 0.09 %

## STANDARD COMPLIANCE

**EPO GROUT** meets or exceeds the test requirements of **ASTM C 1107**.

EPO GULF SPECIALITIES CO.

Kuwait, Amghara Industrial area  
Block 4 Building 95 – 97 – 99  
P.O box 12017 – Tel: +965 22272590  
info@epogulf.com

WWW.EPOGULF.COM



EPO YAPI KIMYA CO.

Cement – Concrete Technology  
Turkey, Istanbul, Tuzla, Orhanli  
Tel: +90 2165932294  
info@epo.com.tr

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Ver 03/20



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## APPLICATION PROCEDURE

### PREPARATION

The surface on to which the **EPO GROUT** is to be applied should be scabbled to remove laitance and expose aggregate. Do not use brush hammers or similar preparation equipment that can crush the aggregate but leave it in place. The surface must be free with oil, dust, dirt, paint, curing compound etc. Soak area to be grouted with water for 24 hours prior to grouting to minimize localized absorption and to assist in the free flow of the grout. Surface should be damp but free of standing water. Particular attention should be paid to bolt holes to ensure that these are water-free. Use oil free compressed air to blow out bolt holes and pockets as necessary.

Base plates, bolts, etc. must be clean and free of oil, grease, paints residual curing compound or other contaminants that could impair adhesion. Set and align equipment. If shims are to be removed after the grout has set, then lightly grease them for easy removal.

Ensure formwork is secure and watertight to prevent movement and leaking during the placing and curing of the grout. The area should be free of excessive vibration. Shut down adjacent machinery until the grout has hardened.

### MIXING

The flowable grout is obtained by mixing **EPO GROUT** with clean water at the following dosage:

2.75 ± 0.25 liters water for trowellable consistency  
3.25 ± 0.25 liters water to give flowable consistency

The amount of water used depending on the workability required. Avoid bleeding and segregation. Add the powder to the specified amount of water and mix for 3 minutes. Mixing should be carried out in a suitably sized mixing vessel, using a slow speed, heavy duty drill. Do not mix with the other hydraulic binders. The use of other additives is prohibited.

### CASTING

Length of metal strapping laid in the formwork prior to placing may be necessary to assist grout flow over large areas and in compacting and eliminating air pocket. Pour the grout continuously. Maintain a constant hydrostatic head, of at least 15 cm.

On the side where the grout is to be poured, allow 10cm clearance between the side of the form and the base plate of the machine.

On the opposite side allow at least 10cm clearance between the formwork and base plate to allow the grout to flow through without entrapping air. **EPO GROUT** grouts are suitable for use with most type of pumping equipment.

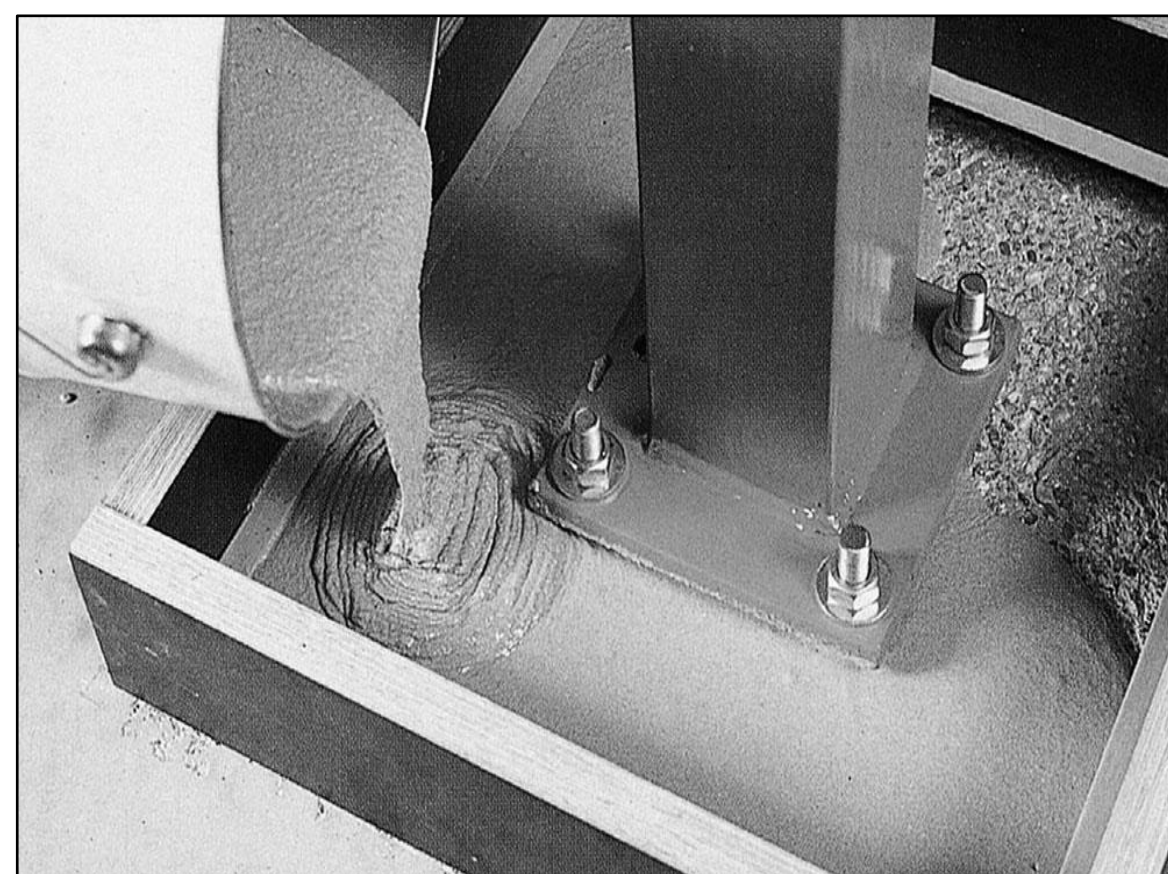
Immediately after placing **EPO GROUT**, cover all exposed grout with clean damp hessian and keep moist until grout is firm enough to accept a curing membrane from our **EPO CURE** range.

### TO USE AS CONCRETE REPAIRING

Concrete should be soaked with water to reduce the absorbency prior to application. Mix 25Kg bag **EPO GROUT** with 2.75±0.25 liters of clean water until a smooth paste is obtained. Place the mortar by trowel ensuring that it is well consolidated behind any reinforcing steel. The application thickness is in the range of 10mm to 100mm.

### HIGHER THICKNESS

**EPO GROUT** can be applied in a single layer up to 100mm, to achieve higher thickness up to 500 mm use an 8-12 mm clean/washed aggregate, add aggregate at a ratio of 14Kg to 25Kg of **EPO GROUT**.



## PRECAUTIONS

**Limitations:** Do not work at 5°C or less. Apply at a thickness up to 100mm. Ensure that the unrestrained area of repair is kept to a minimum.

**Cleaning:** All equipment must be cleaned with water immediately after use. Mixes containing this product must not be emptied into drainage system.

**Protection:** All works must be protected from rain, frost until fully hardened.

**Storage:** Shelf life is 12 months when stored in dry conditions at moderate temperature and humidity.

**Fire resistance:** **EPO GROUT** is not flammable

## HEALTH AND SAFETY

**EPO GROUT** is non-toxic but mildly alkaline. Gloves should be worn during application. Splashes to the skin or eyes should be removed with clean water. In the event of prolonged irritation, seek medical advice.

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