

EUNIGROUT ES4

Epoxy Grout

**Product Description**

EUNIGROUT ES4 is a low viscosity, tow-pack, clear, non-solvent, liquid epoxy resin, which has high bond strengths and excellent penetrative power, making it suitable for a wide range of applications. EUNIGROUT ES4 complies with ASTM C881-78 Grade 1, Class B and Class C.

Advantages

- Low viscosity and gives good penetrative power at low pressures for crack sealing. Rapid strength development ensures early return to service. High early strength development for rapid return to service.
- Excellent bond strengths to concrete, steel and a wide range of building materials.
- Highly resistant to acids, alkalies, oils, grease and other aggressive materials.

Uses

Major and typical uses are crack injection, sealing/bonding in gaps from 0.5 mm to 5 mm, reinforcement protection, concrete priming for epoxy mortars and as a protective coating to these mortars. Non-slip flooring on walkways, bridges, etc. with broadcast aggregates. Excellent adhesive between new and old concrete.

Typical Properties

- Appearance: Mobile, amber liquid
- Specific Gravity: 1.30 ± 0.02
- Viscosity (poise):
@ 20°C = 6.50
@ 30°C = 2.50
- Storage Life: 12 months in sealed containers
- Ratio: Resin 1 part: Hardener 1 part by pack

Application

Coverage: Brush, 3-6 m²/kg one coat.

Film Thickness: Dry, 150-300 micron, per coat

Pot Life ASTM C881:

@ 10°C = 60min

@ 30°C = 20min

Light Loads in Service 2days 1day

Full Loading 7days 3days

Application Temp. : min. 5°C.

Bond Strength, BS6319, Part4: 40 N/mm²

Flexural Strength, BS6319, Part3: 40 N/mm²

Compressive Strength, BS6319, Part2: 75 N/mm²

Chemical Resistance

Typical data at a solution temperature of 20°C for a two coat film for 3 months are given below:

Solution	Result
Caustic Soda 30%	E
Sulphuric Acid 10%	G
Fuel Oil	E
Petrol	G
Hydrochloric Acid 10%	G
Bleach	G
Salt Water	E
Trichloroethylene	P
Methyl Ethyl Keton	D
Toulene	D

Key:

E = Excellent, no change

G = Good, slight attack

P = Poor, heavy attack

D = Destroyed

Method of Use

Surface Preparation

Bonding, Priming, Protection: Remove laitance by grinding. Metals should be cleaned to a bright finish. In all cases a clean, sound, dust free, surface must be achieved.

Crack Ponding Horizontal Surfaces: Ensure crack edges are sound and clean, remove out dust and debris. Use mastic, putty or sand/cement to build 25mm high walls along the cracks which will provide a pressure head and stop resin loss.

Crack Injection: It is strongly recommended that special contractors are employed when crack injection is needed to reinstate structural properties. In all cases the cause of the cracking should be identified and removed before injection. Two basic preparation methods are use depending on the crack type:

1. In whole mounting; 2mm-5mm cracks not diffused:
 - a. Drill out 6-8mm x 4-5cm deep holes, at 30-40cm intervals along crack.
 - b. Vacuum, clean out debris.
 - c. Insert 5-7cm x 3-4mm diameter soft metal, copper or aluminum tubes to 75% of whole depth.
 - d. Fix thick wall nylon tubes over insert pipe with jubilee clips.
 - e. Seal all cracks, both sides of the structure.
 - f. Use low pressure air to blow through the system starting at one end, to clear debris and dust.
2. Surface mounting; 0.5mm-2mm cracks diffused:
 - a. Wire brush surface around crack, clean off dust.
 - b. Bond flanged tube to resin using a wire to locate over the crack.
 - c. Fix nylon tube to flanged tube.
 - d. Seal all cracks, both sides of the structure.
 - e. Allow resin seal to harden/cure before injection EUNIGROUTES4.

Mixing

Ensure sufficient material is available to cover estimated requirements. Materials for injection should be stored at 10°C - 15°C for 48 hours before use to help prolong pot life. Do not mix large quantities, but aim to have as little an interval between mixes as possible. Mix 1 part hardener into 2 parts Resin with a slow speed drill and stirrer and use immediately.

Application

Bonding, Priming, Protection: Brush apply, using a scrubbing action to ensure good penetration and coverage of 46m²/kg. Placing of epoxy mortars and items to be bonded should be carried out onto wet resin only.

Crack Ponding: Pour the mixed resin into and along the crack and allow penetrating, adding more resin as required. Remove any unabsorbed resin before it hardens.

Crack Injection: Satisfactory penetration can be obtained using metal grease guns lipped to the filling tubes or disposable cartridge guns. Essentially these are low pressure systems and fine cracks will require pneumatic specialized equipment. Place the mixed resin into the container and pump in resin starting from the lowest injection point. Continue until resin appears at the next injection point. Wire tie the plastic tube and repeat the process along the crack. Flush out the cartridge and nozzle before the resin hardens. Finishes: Strike off the injection tubes and power grind the surface to leave a smooth finish.

Cleaning

Tools and equipment should be cleaned immediately after use. Hardened EUNIGROUT ES4 can be only be removed by mechanical means.

Storage

Store in closed containers protected from extremes of temperature. Pre cool before use in hot climates. Store away from food stuff.

Health and Safety

For further information see the EUNIGROUTES4 Material and Safety Data Sheet, or our technical department.

Technical Service

The Technical Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

Contact Information

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