

EPOXY BACKING GROUT

epigen 0301



TECHNICAL BULLETIN

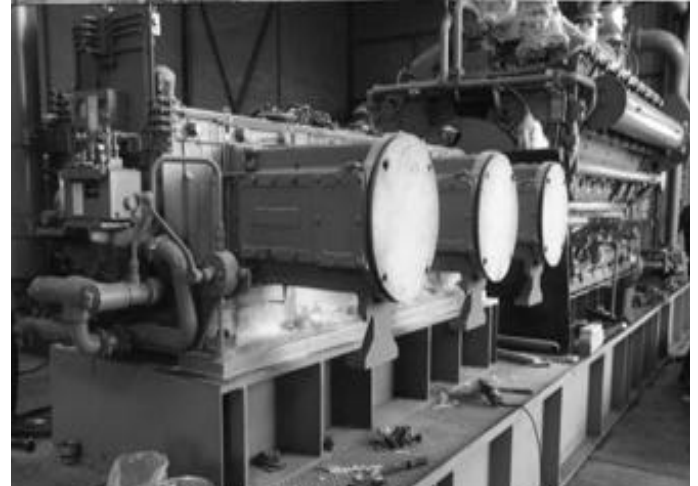
A tough infusible solvent free advanced composite system developed to be used as a multipurpose high strength casting and grouting polymer. Exhibits excellent chemical resistance, corrosion resistance, and high structural integrity under stress in both compression and tension.

This product is designed to be used effectively in hot or cold climates, and is able to be blended with graded aggregate without appreciable loss of strength. Addition of graded aggregate is recommended when installation depth is extreme or to control excessive exotherm under hot conditions.

Suitable for use on a variety of surfaces including steel, wood, and concrete.

TYPICAL APPLICATIONS

Civils Foundation Bedding	Slipway Foundations
Road Bridges Grouting	Bedding Rails
Crusher Backing & Grouting	Floor Re Levelling
Concrete Repair	High Strength Adhesive
Casting Mould Making	Chemical Anchoring
Precision Grouting	Engineering Grout
Crack Repair	Wet to Dry Concrete



TYPICAL APPLICATIONS

Ratio by weight	9.1 kg Component "A"
	0.9 kg Component "B"
Pot Life minutes @ 24°C	30
Mixed consistency @ 24°C	Flowable Liquid
Specific gravity when mixed	1.7

MECHANICAL CURED PROPERTIES

Compressive strength ASTM D695, Mpa	>100
Compressive strength after 24 hours, Mpa	>88
Tensile strength ASTM D638, Mpa	>21
Flexural strength ASTM D638, Mpa	>21
Hardness, Shore D	90
Comp Modulus of Elasticity ASTM D695, Mpa	>1300
Comp Modulus of Elasticity after 24 hours, Mpa	>770
Elongation D638	2.4%
Coefficient of thermal expansion ASTM C531 (cm/cm/°C) x 10 ⁻⁵	3.7
Dielectric constant ASTM D150 (150KHz)	3.0
Maximum exposure temperature, °C	130
Heat deflection temperature ASTM D648, °C	75
Cure time @ 20mm, Minutes	90
Cure time to open service @ 20mm, Hours	4
Ultimate cure time @ 20mm, Hours	48

This information is supplied as an indicative reference only.
Caution should be used where direct comparisons are to be made.

FEATURES

- Engineered for high mechanical strength
- Extremely strong adhesive
- Broad spectrum chemical resistance
- Cures in 6 hours
- Free of all solvents - zero VOC
- Cures even when applied under cold adverse conditions
- Suitable for underwater use

CREEP UNDER LOAD

ASTM D621-64 Method A
Epigen 301 resin was mixed with equal parts by weight, of 16/30 Silica Sand.

Four distinct applied stresses and temperatures were maintained, consistent with Western Power directives for loading evaluation for equipment grouting & bedding.

Applied Stress	Temperature	Deformation
15Mpa	40°C	1.35%
8Mpa	40°C	0.27%
8Mpa	85°C	2.78%
6.5Mpa	85°C	2.56%

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SURFACE PREPARATION

Methods for substrate preparation preference using high pressure water blasting, or mechanical techniques such as grinding or scarifying.

Specialist advice is available to ensure suitable preparation procedure is employed for specific applications.

INSTALLATION

Mixing of product should be carried out using slow speed mixers and carried out by adding component "B" to the component "A". Once uniform in colour, mixed product should be poured directly into the area requiring treatment or applied to surfaces nominated for service. In underwater service, any water within the void will be displaced vertically.

When filling large cavities, **Epigen 301** may be bulk filled with equal parts by weight 16/30 mesh Silica Sand to reduce the amount of resin used. This is seen as an advantage particularly with high ambient temperature since the addition of aggregate reduces the exotherm and any resultant post cure contraction. The addition at the recommended rate will retain strength and pourability features. The kits have been designed for equal parts aggregate addition by simply topping up the mixed product container with silica sand.

COVERAGE GUIDE

As Supplied

- 1.7 kg of **Epigen 301** / litre.
- 17 kg of **Epigen 301** / 10 litres.
- 17 kg of **Epigen 301** / m² @ 10mm.

Filled with equal parts by weight 16/30 Silica Sand

- 1.0 kg of **Epigen 301** + 1.0 kg of aggregate / litre.
- 10 kg of **Epigen 301** + 10 kg of aggregate / 10 litres.
- 10 kg of **Epigen 301** + 10 kg of aggregate / m² @ 10mm.



FORMWORK

In grouting applications, waxed timber, acrylic sheet, mild steel or galvanised forms have also be used with equal success.

Seal joins using silicon sealant.

CHEMICAL RESISTANCE

The following results represent relevance when in grouting applications of chemical facilities.

Tested at 21°C. Samples cured for 10 days at 25°C.

- 1 = Continuous or long term immersion
- 2 = Short term immersion
- 3 = Splash and spills
- 4 = Avoid contact

Acetic Acid, 10 %	2	Ammonium Chloride	1
Hydrochloric Acid, 5 %	1	Beer	1
Hydrochloric Acid, 10 %	1	Dichloromethane	4
Hydrochloric Acid, conc	2	Diesel Fuel	1
Nitric Acid, 10 %	2	Kerosene	1
Phosphoric Acid, 5 %	1	Petrol	1
Phosphoric Acid, 20 %	2	Salt Water	1
Sulfuric Acid, 5 %	2	Sewage	1
Sulfuric Acid, 20 %	3	Skydrol	1
Ammonium Hydroxide, 5 %	1	Sodium Cyanide	1
Ammonium Hydroxide, 20 %	1	Sodium Hypochlorite	1
Potassium Hydroxide, 5 %	1	Toluene	2
Potassium Hydroxide, 20 %	1	Trichloroethane	2
Sodium Hydroxide, 5 %	1	Wine	1
Sodium Hydroxide, 20 %	1	Xylene	1

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CURE

Variations in cure may arise due to the amount of material being applied, the thickness of material being applied, the surface temperature, and the product temperature. The cure may be increased by heating product or by leaving mixed material stand for 15 minutes before use. The cure may be decreased by cooling the product before mixing.

EPIGEN PRODUCTS

MANUFACTURED BY

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