BONDING & REPAIR ADHESIVE
epigen 1009

epigen
Performance Resins & Composite Systems

TECHNICAL BULLETIN

A tough infusible solvent free epoxy resin based system designed for use as a multipurpose high strength casting and grouting polymer and "wet to dry" concrete adhesive. It may be applied by either roller or brush.

This product is designed to be used effectively on wet or dry concrete, in hot or cold climates.

TYPICAL APPLICATIONS

Wet to Dry Concrete Adhesive
Bedding Rails & Tracks
Floor Re Levelling & Crack Repair
High Strength Adhesive
Casting Mould Making
Chemical Anchoring

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

BOND STRENGTH

ASTM C882 - 65 MPa Base / 65 MPa Scarf Joint
Bond Strength reported in MPa.

Smooth Saw Cut	
Dry	52
Wet	14
Rough Exposed Aggregate	
Dry	49
Wet	18

PROFILE

Ratio by weight	2 parts Component "A"
	1 part Component "B"
Pot Life minutes @ 24°C	30
Mixed consistency @ 24°C	Flowable Liquid
Specific gravity when mixed	1.3

MECHANICAL CURED PROPERTIES

Compressive strength ASTM D695, Mpa	>90
Tensile strength ASTM D638, Mpa	>21
Flexural strength ASTM D638, Mpa	>21
Hardness, Shore D	88
Comp Modulus of Elasticity ASTM D695, Mpa	>1200
Elongation D638	2.6%
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.

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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 using a brush or roller.

When filling large cavities, **Epigen 1009** 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.

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**
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1009:1977/Apr
rev03,2011/Dec