

CHEMPROOF RESIN BINDER

epigen 4028

TECHNICAL BULLETIN

4028 is the multipurpose binder providing the excellent chemical resistance, high strength and good working life for a solid colour finish. 4028 is based on high performance Novalac resin technology with a high performance cycloaliphatic amine blend, and maintains solventless character to meet the highest standards of chemical resistance and corrosion protection.

Primarily a binder to be used with aggregate or glass fibre in the treatment of steel, concrete and brick in applications where acids, alkalis, organic solvents, alone or in combination rise to problematic conditions. Novalac functionality and high cross linking density is the key stone of 4028 technology which allows use with a wide variety of aggregates without compromising chemical resistance.

TYPICAL APPLICATIONS

Acid Bunds	Tanks & Vessels
Pipelines & Valves	Acid Sumps & Drains
Sulfur Pits	Concrete Repair

The surface finish may be laid as a thin film however it is recommended 6mm be a minimum in unison with a low porosity aggregate like silica sand if trowelled. It is acceptable to apply high builds in most situations to increase strength. Large areas may be quickly treated using the product with aggregate in the multicoat method, to effective thickness down to 2.5mm.

FEATURES

- Superior Novalac polymer system
- Free of all solvents - zero VOC
- Outstanding resistance to chemicals & acids
- Versatility in application - can be used with GF
- Suitable in patching or repair of mortar
- Solid colour finish provides even clean finish
- Application DFT from 6mm to over 40mm in 1 coat
- Easy to lay large areas with maximum ease
- Engineered for high mechanical strength



PROFILE

Ratio by weight	2 parts "A" to 1 part "B"
Pot Life minutes @ 24°C	30
Mixed consistency @ 24°C	Flowable Liquid
Specific gravity when mixed	1.1
Tack free time @ 24°C	180 minutes

TYPICAL CURED PROPERTIES

Compressive strength ASTM D695, Mpa	>110
Tensile strength ASTM D638, Mpa	>26
Flexural strength ASTM D790, Mpa	>50
Hardness, Shore D	84
Dielectric constant ASTM D150 (150KHz)	3.0
Maximum exposure temperature, °C	125
Heat deflection temperature ASTM D648, °C	70
Thin Film Gel, (min recoat time) Minutes	75
Maximum recoat time, Hours	48
Ultimate cure time to Service, Hours	96

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

SURFACE PREPARATION

In line with all cases where good adhesion is expected, the substrate should be reasonably clean and free from loose particles. Methods for substrate preparation include abrasive blasting, etching, grinding or scarifying. The technique best suited depends on the substrate, the service conditions, and practical considerations.

APPLICATION

MORTAR PREPARATION

4028 is designed to be used as a binder to which aggregate is to be added. Extensive work has resulted in the recommendation of dried silica sand in the range 0.6mm - 1.2mm. This is often referred to as 16/30 mesh size. Variations in porosity and strength may occur when over adding aggregate or in using too fine a grade. In using Silica Sand 16/30 mesh, a mix ratio of 1 part 4028 to 5 parts sand provides an ideal trowel on mortar. The trowel applied mortar may be finished by broadcasting sand over the application and sealing with a final coat of Epigen 4028 to provide a profiled nonslip finish to eliminate any minor porosity.

MULTICOAT APPLICATION

To complete the floor leaving a profiled safe trafficable finish, apply the product directly to the substrate ensuring the product is finished off evenly, removing excess puddles or trails. Broadcast graded sand aggregate, nominally 16/30 mesh, over the entire product within 30 minutes of rolling down the area. Ensure the product is totally blinded out by the sand. Leave the product to cure for 8-12 hours before carefully sweeping away all loose unbound sand. Apply another coat of Epigen 4028 over the entire area to leave the floor with an even appearance and broadcast graded sand aggregate over the entire area. Leave the product to cure for 8-12 hours before carefully sweeping away all loose unbound sand and applying a final coat of Epigen 4028 throughout to ensure all sand is thoroughly sealed.

COVERAGE GUIDE

Trowel (final DFT 6mm)

1.8 kg of *Epigen 4028* / m².

9 kg of 16/30 Silica Sand / m².

For vertical applications, replace 16/30 sand with 100 mesh.

Non Slip Finish (final film nominally 2.5mm minimum)

Epigen 4028 1st coat 4 m² / kg

16/30 mesh sand 5 kg / m²

Epigen 4028 2nd coat 1.5 m² / kg

16/30 mesh sand 5 kg / m²

Epigen 4028 3rd coat 1.5 m² / kg

CHEMICAL RESISTANCE

Tested at 21°C. Samples cured for 10 days at 25°C. Curing at elevated temperatures will improve chemical resistance.

1 = Continuous or long term immersion

2 = Short term immersion

3 = Splash and spills

4 = Avoid contact

Acetic Acid, 10 %	2	Acetone	2
Acetic Acid, Glacial	2	Ammonium Chloride	1
Hydrochloric Acid, 5 %	1	Beer	1
Hydrochloric Acid, 10 %	1	Dichloromethane	3
Hydrochloric Acid, conc	1	Diesel Fuel	1
Nitric Acid, 5 %	2	Isopropyl Alcohol	1
Nitric Acid, 10 %	2	Kerosene	1
Phosphoric Acid, 5 %	1	Petrol	1
Phosphoric Acid, 20 %	1	Salt Water	1
Sulfuric Acid, 20 %	1	Sewage	1
Sulfuric Acid, 75 %	1	Skydrol	1
Sulfuric Acid, 98 %	2	Sodium Cyanide	1
Ammonium Hydroxide, 20 %	1	Sodium Hypochlorite	1
Ammonium Hydroxide, 50 %	1	Toluene	2
Potassium Hydroxide, 5 %	1	Trichloroethane	2
Potassium Hydroxide, 20 %	1	Vinegar	1
Sodium Hydroxide, 20 %	1	Wine	1
Sodium Hydroxide, 50 %	1	Xylene	2

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Note : Under acidic conditions, 4028 has been designed to change colour allowing OH&S steps to be taken in cleaning up spills or as a warning to beware.

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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