SOLVENTLESS HB COATING
epigen 1311FC

epigen
Performance Resins & Composite Systems

TECHNICAL BULLETIN

A fast curing, solventless, high build, protective coating designed to provide a barrier against corrosive conditions in tanks, wells, structural members and fluid transfer systems. It cures at ambient temperatures to form a tough, semi-flexible coating possessing good chemical resistance and U.V. stability, adhering strongly to suitably prepared metal, wood and concrete surfaces

Suitable for use in the water industry in both Hydrogen Sulfide rich WWTP & Potable Water applications, this high performance, epoxy polymer lining is designed to meet high standards of resistant to sea water, mineral acids and alkalis, hydrocarbons, oil and fuel, and is suitable in applications where fine particulate matter maybe present.

1311FC was developed primarily for use under low temperature conditions or where fast cure is essential to the reintroduction of plant and services.

TYPICAL APPLICATIONS

Waste Water Plants	Drinking Water Systems
Pipelines & Valves	Ducting Systems
Cooling Towers	Process Tanks & Vessels
Seawater Cooling Systems	Wharf Piles & Posts
Sumps & Drains	Steelwork Coating

FEATURES

Application DFT up to 1000 micron in the one coat

Free of all solvents - zero VOC

Outstanding resistance to aqueous media

Versatility in application - can be used with GF

Fast Cure - rapid return to service

Cures at very low temperatures

PROFILE

Ratio by weight	2 parts “A” to 1 parts “B”
Pot Life minutes @ 24°C	<10
Mixed consistency @ 24°C	Viscous Flowable Liquid
Specific gravity when mixed	1.4
Kg/m² for 500 micron	0.7
Tack free time @ 24°C	<60 minutes

TYPICAL CURED PROPERTIES

Compressive strength ASTM D695, Mpa	>110
Tensile strength ASTM D638, Mpa	>25
Flexural strength ASTM D790, Mpa	>50
Elongation ASTM D638, %	3.5
Hardness, Shore D	85
Dielectric constant ASTM D150 (150KHz)	3.1
Maximum exposure temperature, ° C	105
Heat deflection temperature ASTM D648, ° C	80
Thin Film Gel , (min recoat time) Minutes	20
Maximum recoat time, Hours	24
Ultimate cure time to Service , 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 may include chemical means such as washing & etching, high pressure water blasting, or traditional abrasive blasting techniques . Caution should be maintained in selecting a technique that provides satisfactory anchor for the lining.
Specialist advice is available from Peerless Industrial Systems to ensure the correct preparation procedure is employed for specific applications.

APPLICATION

Mixing of product should be carried out using slow speed mixers and completed by adding to the part "A", the part "B". Ensure the mix is homogeneous and free from lumps. Avoid air entrainment.
1311FC can be applied either by airless spray, brush or roller. Since it does not contain solvents, application by spray allows the application of high film thicknesses in single coats, and ensures that all material purchased actually contributes to the final DFT. 1311FC is a higher viscosity than conventional solvent containing coatings and application may require more specialised practices but is generally compensated for by the speed of application and need to apply fewer coats.
Epigen Diluent maybe added to 1311FC to control viscosity under some circumstances. Avoid excessive additions and do not add Diluent in confined spaces or near naked flame. Do not add thinners to extend pot life.
In concrete correction applications, blow holes, cracks, or significant damage maybe faired by mixing 1 part 1311FC with 1.5parts 30/50 sand and applying the paste to the damaged areas. This practice should be employed after the first coat application when the extent of degradation becomes apparent and before second coat application.

1311FC is a functional, industrial finish and is not developed to possess asthetic properties such as high gloss which would enable it to be used where appearance is particularly important.

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

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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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