

ULTRA HIGH BUILD EPOXY

epigen 1311 ULTRA

ULTRA is a unique solventless epoxy high build protective coating designed to provide builds as high as 20mm in one application, to combat corrosive conditions in sewers, tanks, wet wells, and protect structures like wharfs, offshore assets or ships. 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 and concrete surfaces

Suitable for use in the water industry in Brine, Potable Water or Hydrogen Sulfide rich WWTP, ULTRA is the latest technology in high performance epoxy polymer lining that can be applied by conventional airless spray. Designed to meet high standards of resistance to sea water, mineral acids and alkalis, hydrocarbons, oil and fuel, and is suitable in applications where fine particulate matter may be present.

1311 ULTRA is primarily a barrier coating or lining for the treatment of steel, concrete or brick.

TYPICAL APPLICATIONS

Waste Water Plants	Sewers & Manholes
Pipelines & Valves	Ducting Systems
Cooling Towers	Process Tanks & Vessels
Seawater Cooling Systems	Risers and Piers
Wharf Decks and Piles	Splash Zone
Ballast Tanks	

FEATURES

Highly erosion resistant filler within polymer system
Application DFT from 0.5 to 20 mm in the one coat
Free of all solvents - zero VOC
Engineered for high mechanical strength
Resistant to organic solvents
Versatility in application
Suitable for heavily corroded steel
Excellent over extremely rough concrete without sag
Outstanding resistance to acid & alkali
Tolerant of application underwater and cure
Potable Water Approved



PROFILE

Ratio by weight	2 parts "A" to 1 part "B"
Pot Life minutes @ 24°C	45
Mixed consistency @ 24°C	Flowable Liquid under shear
Specific gravity when mixed	1.4
Kg/m ² for 5000 micron	7
Tack free time @ 24°C	120 minutes

TYPICAL CURED PROPERTIES

Compressive strength ASTM D695, Mpa	>110
Tensile strength ASTM D638, Mpa	>25
Flexural strength ASTM D790, Mpa	>50
Tensile Adhesion ASTM 4541, MPa	>12
Hardness, Shore D	80
Dielectric constant ASTM D150 (150KHz)	3.1
Coeff of Therm Exp ASTM C531, 10 ⁻⁵ /°C	3.0
Maximum exposure temperature, °C	120
Heat deflection temperature ASTM D648, °C	70
Thin Film Gel, (min recoat time) Minutes	90
Maximum recoat time, Hours	48
Ultimate cure time to Service, Hours	120

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

SURFACE PREPARATION

Methods for substrate preparation may include abrasive blasting, high pressure water blasting, chemical means such as etching or pickling, or hand tool methods.

Every effort should be maintained in selecting a technique that provides satisfactory adhesion for the lining in the given service.

Specialist advice is available to ensure 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 homogenous and free from lumps. Avoid air entrainment.

Epigen 1311 ULTRA can be applied either by airless spray, brush or trowel. Since it does not contain solvents, application by spray allows the application of high film thicknesses in single coats, and ensures minimal issues with solvent entrapment or shrinkage.

Epigen 1311 ULTRA is of 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 1311 ULTRA provides functional performance as a coating or lining. It may not provide aesthetic properties such as high gloss or colour retention.

AIRLESS SPRAY

Recommended:

Ratio Pump = Airless 70:1

Lines (internal) to whip = 1/2" lines

Whip = 3/8"

Tip Size = 525 but field work often uses 30 to 35 thou

Vertical Hopper Feed or direct leg feed, no horizontal lines

No inline filters

Lower inlet maximum (>1 1/4" heavy duty return spring)

Line Pressure (>6500 psi)



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