

## Technical Data Sheet

# Epox-1392

## ( Ceramic - HT2)

### Product Description

A two component high temperature coating system resistant to water, aqueous solution and hydrocarbons up to temperature of 248 F (120 C) designed specifically to provide erosion corrosion protection in acid contaminated water/hydrocarbon system. For use original equipment manufacture or repair situation.

### Application areas

When mixed and applied as detailed in the instruction for use, the system is ideally suited for application to the following

Condensate extraction pumps	condensate return tanks	evaporators
Heat exchanger barrels	oil/gas and oil/water separators	autoclaves
Scrubber units	calorifiers	distillation unit

### Typical Properties

Property	part A	part B	mixed system
Appearance	paste	liquid	liquid
Colour	dark gray	green	gray
Density (g/cm <sup>3</sup> )	2.3	0.95	2.1
Pot life at 25°C, 100 g, min			30 min

### Processing

Mix ratio Product	by weight
Part A resin	100
Part B hardener	8



## Pretreatment

The strength and durability of a bonded joint are dependent on proper treatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone, isopropanol (for plastics) or other proprietary degreasing agents in order to remove all traces of oil, grease and dirt. Low-grade alcohol, gasoline, or paint thinners should never be used. The strongest and most durable joints are obtained by either mechanically abrading or chemically etching the degreased surfaces. Abrading should be followed by a second degreasing treatment.

## Instructions for use

### 1. to ensure an effective molecular weld

metallic surfaces – apply only to blast cleaned surfaces

- a. brush away loose contamination and degrease with a rag soaked in (cleaner/degreaser) or any other effective cleaner which does not leave a residue e.g. methyl ethyl ketone (MEK).
- b. Select an abrasive to give the necessary standard of cleanliness and minimum depth of profile of 3 mils. use only an angular abrasive.
- c. Blast clean the metal surface to achieve the following standard of cleanliness  
Iso 8501-1 sa 2 ½ very thorough blast cleaning
- d. After blasting, metal surfaces should be coated before any oxidation of the surface takes place

### Salt contaminated surfaces

The should salt contamination of the prepared substrate immediately prior to application, shall be less than 20 mg/m<sup>2</sup>.

Metal surfaces that have been immersed for any period in salt solution e.g. sea water, should be blasted the required standard, left for 24 hours to allow the ingrained salt sweat to the surface, then washed prior to a further brush blast to remove these. This process may need to be repeated several times to commercially available that will assist and speed salt removal.



## 2. Applying

### For the best results

### Do not apply when

- a. The temperature is below 59 F(15 C) or the relative humidity is above 90%
- b. The substrate temperature is less than 5 F(3 C) above dew point.
- c. rain, snow, fog or mist is present
- d. there is moisture on the metal surface or is likely to be deposited by subsequent condensation.
- e. The working environment is likely to be contaminated by oil/grease from adjacent equipment or smoke from kerosene heaters or tobacco smoking.

2-1 Apply the Epox-1392 directly on to the prepared surface with applicator or spatula provided

2-2 Before carrying out repair of applying a second coat, wash the surface of the Epox-1392 with warm detergent solution to remove any amine bloom that has formed. Rins with clean water and allow to dry

2-3 Grit blast to create a frosted surface free from any gloss with a target profile of 1.5 mils. Remove debris cleaner which does not leave a residue e.g. MEK.

2-4 Apply a second coat Epox-1392 observing the recommended film thickness and coverage rate stated above.

### Coverage rates

Recommended number of coat	2
Target thickness 1 st coat	18 mils (450 microns)
Target thickness 2 nd coat	18 mils (450 microns)
Minimum total DFT	24 mil (600 microns)
Maximum total DFT	Only limited by sag resistance
Theoretical coverage rate 1 coat	10.4 sq.ft (0.97 m <sup>2</sup> )/kg
Theoretical coverage rate 2 coat	10.4 sq.ft (0.97 m <sup>2</sup> )/kg
Theoretical coverage rate to achieve minimum recommended system thickness	7.9 sq.ft (0.73 m <sup>2</sup> )/kg



### Practical coverage rate

Appropriate loss factors must be applied to the above coverage rates. In practice, many factors influence the actual coverage rate achieved. On rough surfaces such as pitted steel the practical coverage rate will be reduced. Application at low temperature will also reduce practical coverage rates further.

### 3. Completion of the molecular reaction

Allow Epox-1392 to solidify as below subjecting it to the condition indicated.

Ambient temperature	Time until inspection	Time until full service	Time until post-cure (if required)	
			dry	wet
68 F/ 20 C	12 hours	96 hours	12 hours	12 hours
86 F/ 30 C	5 hours	18 hours	12 hours	12 hours
104 F/ 40 C	3 hours	10 hours	12 hours	12 hours

### Equipment maintenance

All tools should be cleaned with hot soapy water before the adhesive residue dries. Removing cooked debris is a difficult and time consuming operation. If solvents such as acetone are used for cleaning, staff should take appropriate precautions and, in addition, avoid skin and eye contact.

## Typical Physical Properties

Property	value	test method
Tensile shear		
Mild steel	2320 psi (16 mpa)	ASTM D1002
Pull of adhesion	2465 psi (17 mpa)	ASTM D4541
Abrasion cs-17 wheels	32.5 (mg/cycle)	ASTM D4060
Compressive strength	14793 psi (102 mpa)	ASTM D695
Tensile strength	4790 psi (33 mpa)	ASTM D638
Flexural strength	6960 psi (48 mpa)	ASTM D790
Hardness		
Shore D	84	ASTM D2240
Barcol hardness	40	ASTM D2583
Heat resistanc	-40C-230C	ASTM D648
Impact resist	25 j/m	ASTM D256

## chemical properties

Type of chemical	Product resistance	Type of chemical	Product resistance
engine oil	Excellent	30% sodium hydroxide	Excellent
50% sulfuric acid	Excellent	50%Calcium hydroxide	Excellent
30% sulfuric acid	Excellent	20%Potassium hydroxide	Excellent
37% hydrochloric acid	Excellent	20% sodium hydroxide	Excellent
20% citric acid	Excellent	30% sodium hydroxide	Excellent
Lactic acid 10%	Excellent	Petrol	Excellent
Sodium hydroxide 10%	Excellent	Toluene	Excellent
Calcium hydroxide 50%	Excellent	Crude oil	Excellent

Test conditions: temperature 25 ° C and humidity 50% immersion in chemical solutions according to standard D 896 – 04



## **health and safety**

The adhesive should be stored in closed containers at a temperature of 25 degrees.

After using the material, close the lid of the remaining material tightly.

Before using the material on the surface, make sure that there is no dust, damp or moisture on the surface.

Before using the material, clean the surface from any grease and dirt.

Wear industrial gloves and a mask when using materials.

