

## Solvent free outstanding chemical resistance coating

### Product Description

Corroline HT CR90 is a high build solvent-free high functionality epoxy novolac coating designed to provide outstanding chemical and corrosion protection of steel and concrete structures at elevated temperatures.

Corroline HT CR90 can easily be applied by airless spray or by brush. Over large surface areas we highly recommend the use of airless spray pump. The cured coating has very high chemical resistance and is able to withstand temperatures up to 90°C dependent on chemical contact and dry conditions up to 170°C dependent on service. Corroline HT CR90 is an ideal coating for long term protection of chimneys, chemical containment and bund areas, tanks, pumps, chemical drains and channels and pipework.

### Product Features

- Very high chemical resistance
- Very good temperature resistance

### Surface Preparation

#### General

Correct surface preparation is essential for the success of any protective coating system. All surfaces should be clean, dry and free from contamination. The substrate surface should be fully inspected and assessed after surface preparation has been completed before proceeding with the application of Corroline HT CR90.

#### Steel Substrate

All oil and grease must be removed from the surface of the repair using an appropriate cleaner such as MEK.

For optimum performance, the surface should be abrasive blasted to ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2) and a minimum blast profile of 75 microns (3mil) using an angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material. All surfaces must be coated before gingering or oxidation occurs.

For salt contaminated surfaces the area must be abrasive blast cleaned as mentioned above and left for 24 hours to allow any ingrained salts to come to the surface. After this 24 hour period the surface must be washed with MEK prior to brush blasting to remove the surface salts. This process must be repeated until all ingrained contaminants have been sweated out of the surface.

Where abrasive blast cleaning is not possible (excluding salt contaminated surfaces) the surface should be roughened by MBX, needle gun or grinding. Under these conditions adhesion levels will not be optimal although still satisfactory for most applications.

### Mixing

#### Mixing

Warm the Base component to 15-25°C (60-77°F) before mixing and do not apply when the ambient or substrate temperature is below 5°C (40°F) or less than 3°C (37°F) above the dew point

Pour approximately half of the contents of the Activator unit into the Base container and mix carefully using a spatula. Once the two materials have been blended, add the remainder of the Activator ensuring that as much material is drained from the Activator container as possible. Mix the two components together until they are streak-free. The material, once fully mixed, has an application of time of 15-20 minutes at 20°C (68°F). This time will be extended at lower temperatures and shortened at higher ones.

### Application

Apply the mixed material onto the prepared surface by brush or applicator tool. This should be in two coats at a target thickness of 300-400 microns (12-16mil) per coat. Apply the second coat as soon as possible after the first coat is dry and not in excess of 6 hours. Where the maximum over-coating interval is exceeded, the first coat should be sweep blasted and cleaned prior to over-coating.

Where small volume mixes are required, the mixing ratio 4:1 by volume or 5.34:1 by weight.

For spray application, in order to achieve atomisation when spraying, heat should be applied to both Base and Activator components as follows:

Base: 50-60°C (120°F-140°) Activator: 35-40°C (95°F-105°F)  
Trace heating on lines should be maintained at 45-50°C (115°F-120°F)

Dependent on the pump ratio, adjust the compressed air pressure to give a tip pressure of 4200psi at the tip.

Spray using a 21-23 thou tip.

Spray apply the material in sufficient passes to achieve a minimum thickness of 500 microns (20mil) checking the film thickness regularly with a wet film thickness gauge and brushing out the test marks.

#### Cure Times

At 20°C (68°F) the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:

<b>Usable life</b>	15-20 minutes
<b>Movement without load or immersion</b>	6 hrs
<b>Light loading</b>	12 hrs
<b>Full loading / water immersion</b>	4 days
<b>Chemical Contact</b>	7 days

After an initial curing period of at least 12 hours at 20°C (68°F), raising the cure temperature progressively to 60 - 80°C (140-175°F) for up to 8 hours will result in improved mechanical, thermal and chemical resistance properties

## Overcoating Window

Minimum - the applied material can be over-coated as soon as it is touch dry.

Maximum - the over-coating time should not exceed 6 hours.

Where the maximum over-coating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.

## Inspection

Corroline HT CR90 can be inspected for pinholes and holidays using a high voltage spark tester. Before testing, the coating should be washed down with clean water to remove any contamination on the surface and allowed to dry. Typical voltage for testing should be 1.5kV but please refer to the equipment manufacturer's recommendations as voltages may vary with equipment type.

## Technical Support

Corrotech Construction Chemicals offer complete technical support and assistance from discussing application requirements to training approved local contractors. For further information please contact a Corroline representative or your nearest dealer

## Health & Safety

Please refer to the product material safety data sheet for detailed information on handling, storage, shipping and disposal.

## Packaging and Storage

This product is available in the following pack sizes – 1ltr, 4ltrs, 16ltrs.

5 years if unopened and store in normal dry conditions (15-30°C/ 60-86°F)

## Warranty

Corrotech Construction Chemicals guarantees this product will meet the performance claim stated herein when material is stored and used as instructed. Corrotech Construction Chemicals further guarantees that all its products are carefully manufactured to ensure the highest quality possible and tested strictly in accordance with universally recognized standards (ASTM, ANSI, BS, DIN, etc). Since Corrotech Construction Chemicals has no control over the use of the products described herein, no warranty for the application can be given.

## Chemical Resistance

Test	Temperature
Corroline HT CR90 (postcured) offers excellent resistance to the following chemicals when tested at the temperatures indicated:	
<b>98% Sulphuric Acid</b>	75°C
<b>75% Sulphuric Acid</b>	90°C
<b>50% Sulphuric Acid</b>	90°C
<b>25% Sulphuric Acid</b>	90°C
<b>36% Hydrochloric Acid</b>	50°C
<b>10% Hydrochloric Acid</b>	50°C
<b>40% Phosphoric Acid</b>	60°C
<b>20% Phosphoric Acid</b>	60°C
<b>5% Nitric Acid</b>	50°C
<b>40% Sodium hydroxide</b>	90°C
<b>20% Sodium Chloride</b>	90°C
Corroline HT CR90 (postcured) offers excellent resistance to the following chemicals when tested at the temperatures indicated:	
<b>Ammonium hydroxide</b>	30%
<b>Butanol</b>	100%
<b>Benzene</b>	100%
<b>Cyclohexane</b>	100%
<b>Diethanolamine</b>	100%
<b>Ethanol</b>	100%
<b>Ethylene glycol</b>	100%
<b>Hexane</b>	100%
<b>Hexanol</b>	100%
<b>Methyl diethanolamine</b>	100%
<b>Propylene glycol</b>	100%
<b>Octane</b>	100%
<b>Xylene</b>	100%

## Technical Information

Test	Standards	Results
<b>Colour</b>		Mixed material – Dark Grey or Red Base component – Dark Grey or Red Activator component – Amber
<b>Appearance</b>		Base: Red/Grey Paste Activator: Amber liquid Mixed: Red/Grey thixotropic liquid
<b>Mixing Ratio</b>		By weight: 5.34:1 By volume: 4:1
<b>Density</b>		Base: 1.40 Activator: 1.05 Mixed: 1.34
<b>Solids content</b>		100%
<b>Sag Resistance</b>		Nil at 500 microns
<b>Useable Life</b>		12°C 50 minutes 20°C 30 minutes 30°C 15 minutes
<b>Adhesion</b>	Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile	188 kg/cm <sup>2</sup> (2650 psi)
<b>Compressive strength</b>	ASTM D 695	592kg/cm <sup>2</sup> (8,400 psi)
<b>Corrosion Resistance</b>	ASTM B117	> 1000 hours
<b>Flexural Strength</b>	ASTM D790	480 kg/cm <sup>2</sup> (6,800 psi)
<b>Hardness</b>	Shore D to ASTM D2240	20°C 86 100°C 84 150°C 72
<b>Heat Distortion</b>	ASTM D648 at 264psi fibre stress.	20°C Cure 62°C 100°C Cure 98°C 150°C Cure 112°C

26-CorrolineHTCR90-2016-1

This technical data sheet is given in good faith and does not guarantee the application work. All Corrotech technical data sheets & method statements are updated on a regular basis and can be subject to change without notice. It is the users responsibility to obtain the latest version of the information required.

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