

## General Description

**Curran 1000T** is an advanced two part 100% solids epoxy coating designed specifically for high temperature immersion service in cooling water and process streams. This coating is an organic/inorganic hybrid that exhibits state of the art coating technology with exponential improvements in performance verses existing polymer technology. Can withstand multiple cycling and steam out events subjected to process equipment. **Ideally**

### suited for small diameter tubes:

- Heat exchanger tubes (new & used) (straight or U-tube)
- Fin Fan/Air cooler tubes
- Condenser tubes
- Chiller tubes

### Benefits:

- Outstanding immersion protection in water and hydrocarbons.
- Can withstand multiples of heat cycling events with no effect.
- Tolerates excursions/steam outs to + 400 (°F) 204 (°C).
- Excellent foul release.
- Reduction in drag
- Coating surface remains slippery even at high temperatures.
- High Gloss finish
- More thermally stable at higher temperatures than other coatings.
- Zero VOC'S (100% Solids) as supplied

### Coating Properties:

Color: Grey/Green  
Weight (lbs/ gal) 12.8  
Volume solids: 100%  
Flash Point > 200 F (93 C)

### Performance Data:

The following tests were performed on samples after full cure (96 hours @ 70F).

**Abrasion Resistance:** ASTM D 4060  
Tabor CS-17 wheel 1000 cycles, 107 mg loss

**Cathodic Disbondment:** ASTM G 42  
Zero disbondment at 70C for 30 days.

### Chemical resistant:

Contact Curran International for specific chemicals/temperatures/concentrations.

**Recommended** for steam, hydrocarbons, acids and caustics

**Shore D Hardness:** (ASTM D 2240) 85

**Pull off Adhesion:** ASTM D 4541  
3,200 P.S.I 100% cohesive

### Temperature resistance:

365 F (185 C) continuous immersion. Tested up to 400F (200 C) steam for 30 days.  
*Contact Curran on particular service conditions.*

### Theoretical coverage:

- Based on 1 mil (25.4 microns), 1 Gallon will cover 1604 ft<sup>2</sup> (150 m<sup>2</sup>)
- At 40 mils approximate coverage is 40 square feet.

*\* Allow a wastage factor based on application method*

### Mix Ratios:

- Mixing Ratio by Weight:  
100 grams Base to 32.31 grams Hardener
- Mixing Ratio by Volume:  
3.1: 1 (Base to Hardener)

## Application:

Below are general guidelines for applying Curran 1000 T. Contact Curran International for detailed application procedures.

### Surface preparation:

- New surfaces should be degreased prior to grit blasting
- SSPC- SP 10, NACE 2.0; SA 2.5 is a minimum surface cleanliness
- Surface roughness: 1.0 Mil minimum surface profile on the Tube ID's and 3.0 mil minimum on tubesheets, channels, etc.

### Coating Application:

- Coating must be fully mixed before addition of solvent (*if needed*)
- For spray application, a minimum 60:1 airless spray pump is required with an in line heater or heated spray hose.
- Brush and roll

### Recommended Dry Film Thickness

#### For non-ferrous alloy tubes:

- 2 - 4 Mils final DFT

#### For ferrous alloy tubes

- 8 - 14 Mils final DFT

#### Tube sheets, channels etc.

- 20 – 50 mils final DFT for all other applications

*(For tubesheets, there will be a broad thickness range due to the coating build up within the ligament of the tubesheet and coating bridging at the tube to tubesheet joint)*

### Environmental:

Apply when substrate temperature is between 60 F and 100 F. Substrate must be 5 F above dew point

### Thinning: (*if required*)

- Thinning: Denatured alcohol, MIBK, or Acetone can be utilized for thinning and clean up. No more that 25 % of either solvent can be added to the coating. Coating must be fully mixed before addition of solvent

### Holiday Inspection:

Wet sponge Holiday testing is recommended at 67.5 VDC for tube ID's and tubesheets, and high voltage at 1000V/mil for coatings over 20 mils on channels, vessels, etc.

### Repairs:

Should coating be mechanically damaged or a holiday is detected take the following steps to perform a repair.

- 1) Abrade area if overcoat window has expired
- 2) Apply another coat or coats of material to repair area to required DFT
- 3) Once coating has become tack free, QC repaired areas
- 4) Contact Curran International for detailed application procedures.

### Working Times:

At 70F (21C) the usable life of mixed material is 60 min. Working times will vary depending on temperature and amount of material mixed.

### Storage/Shelf Life:

Store in temperatures between 50F (10C) and 90F (32C)

Separate base and hardener will have a shelf life for 2 years when in original, unopened container that is not damaged and stored at the above temperature ranges.

### Health and Safety:

Prior to using this product please review the appropriate Safety Data Sheet (SDS).



## Product Data Sheet:

### Curran 1000T

Rev.7-06/19

#### Cure Time:

	50F/10C	60F/16C	70F/21C	90F/32C
Tack Free (Minimum)	12 hrs	10 hrs	8 hrs	4 hrs
Light load (Minimum)	24 hrs	20 hrs	16 hrs	8 hrs
Overcoat (Maximum)	24 hrs	18 hrs	12 hrs	4 hr.
Overcoat w/ solvent added (Maximum)	96 hrs	72 hrs	60 hrs	48 hr.
Full Load	60 hrs	40 hrs	32 hrs	16 hrs
Full Chem	240 hrs	154 hrs	120 hrs	96 hrs

the only true reliable test is one that is in actual operation, Curran International will make available at no charge, samples of the material for testing purposes.

Curran International has no control over either the quality or the condition of the substrate, or the many factors effecting the use and application of the material. Curran International does therefore not accept any liability arising from loss, injury or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise). The data contained herein are liable to modification as a result of practical experience and continuous development.

This data sheet replaces and annuls all previous issues and it is therefore the user's responsibility to ensure that this data sheet is current prior to using the product.

#### Note:

- Full cure should be confirmed by a MEK rub before exposing coating to chemical service.
- Applicators note that minimum overcoat window is considered acceptable when the coating has gelled to a state that applying another layer of coating over the underlying coat will not lead to deformations of the underlying coat. This may happen before the coating is in a tack free condition.

The information in this data sheet is based on laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of this product, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable. Because