

TECHNICAL DATA SHEET

UPS 555 TC THERMIC COATING 140 X



UPS 555 TC THERMIC COATING 140 X is a high build solvent-free low emissivity coating designed to reduce heat transfer from underlying metal surfaces thereby reducing heat loss and the risk of burns through personal contact.

The coating has been designed to be applied to hot operating surfaces ranging from 80°C to 140°C. (176 °F- 248°F)

Product Information

Product Features

- Solvent free epoxy with high build capability.
- Reduces surface temperatures from 140°C (248°F) to below 55°C (131°F).
- Apply to process surfaces in operation from 80 to 140°C (248°F).

Product Applications

External pipe surfaces, tank externals, process vessels, separators, fan housings, mixing vessels, heat exchangers, ovens



Surface Preparation Manual – Mechanical – Abrasive Blast



Reduces Surface Temperatures from 140°C (248°F) to below 55°C (131°F)



Brush or Roller Applied



Solvent Free

Surface Preparation

Metallic Substrates – Mechanical Abrasion

1. All oil and grease must be removed from the surface using an appropriate cleaner such as UPS 9918 MEK Cleaner or similar type material.
2. All surface must be mechanically abraded using handheld grinders to ISO 5801/4 ST3 (SSPC SP3 ST3).
3. Once abraded, the surface must be degreased and cleaned using UPS 9918 MEK Cleaner or similar type material.
4. All surfaces must be coated before gingering or oxidation occurs.

Metallic Substrates – Hydro-Blasting

1. All surfaces must be hydro-blasted using clean water at 12,000 psi (850 bar) to NACE 5 (SSPC SP13 WJ3-WJ1).

2. All surfaces must be coated before gingering or oxidation occurs.

Metallic Substrates – Abrasive Blast Cleaning

1. All oil and grease must be removed from the surface using an appropriate cleaner such as UPS 9918 MEK Cleaner or similar type material.
2. All surfaces must be abrasive blasted to ISO 8501/4 Standard SA2.5 (SSPC SP10 / NACE 2) minimum blast profile of 75 microns (3mil) using an angular abrasive.
3. Once blasted cleaned, the surfaces must be degreased and cleaning using UPS 9918 MEK Cleaner or similar type material.
4. All surfaces must be coated before gingering or oxidation occurs.

PLEASE NOTE: For salt contaminated surfaces the area must be abrasive blast cleaned as above, as well as left for 24 hours to allow any ingrained salts to come to the surface. After the 24-hour period the surface must be washed with UPS 9918 MEK Cleaner prior to brush blasting to remove the surface salts. Repeat this process until all ingrained contaminants have been sweated out of the surface.

Mixing

Prior to mixing please ensure the following:

1. The base component is at a temperature between 15-25°C (60-77°F).
2. The surface temperature is between 80-140°C (174-285°F).

Once these two checks have been met, please proceed with mixing the product.

1. Transfer the contents of the Activator unit into the Base container.
2. Using an electric paddle mixer, mix the 2 components until a uniform material free of any streaks is achieved.
3. From the commencement of mixing the whole of the material should be used within 120 minutes at 20°C (68°F).

Application

Brush or Roller Applications

1. Pour the mixed material into a paint kettle or paint tray (this will maximize the useable life).
2. Apply the product to the prepared HOT metallic surfaces using a brush or foam roller.

Operating Temp	80°C (176°F)	100°C (212°F)	140°C (248°F)
1 st coat	250microns (10 mil)	250 microns (10 mil)	250 microns (10 mil)
2 nd coat	500microns (20 mil)	250 microns (10 mil)	250microns (10 mil)
3 rd coat	500microns (20 mil)	500microns (20 mil)	500microns (20 mil)
4 th coat	750microns (30 mil)	750microns (30 mil)	750microns (30 mil)
5 th coat	1mm (40mil)	1mm (40mil)	1mm (40mil)
6 th coat	N/A	1mm (40mil)	1mm(40mil)
7 th coat	N/A	1mm(40mil)	1mm(40mil)
8 th coat	N/A	N/A	1mm
Total	3mm (3/32")	4.75mm (3/16")	5.75mm (1/4")

Technical Data & Performance

Coverage Rates

1LTR (0.25 US Gallon) of fully mixed product will give the following coverage rates -

1m ² at 1mm	10.75ft ² at 40mil
0.5m ² at 2mm	5.3ft ² at 80mil

TECHNICAL DATA SHEET

UPS 555 TC THERMIC COATING 140 X

4LTRS (1.1 US Gallon) of fully mixed product will give the following coverage rates -

4m ² at 1mm 43ft ² at 40mil	4m ² at 1mm 43ft ² at 40mil
2m ² at 2mm	21.5ft ² at 80mil

13LTR (3.5 US Gallons) of fully mixed product will give the following coverage rates -

13m ² at 1mm	139.75ft ² at 40mil
6.5m ² at 2mm	69.8ft ² at 80mil

Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.

Drying & Cure Times

The useable life of this material is 120 minutes at 20°C (68°F)

Please use the table below as a guide to the minimum over coating time for the operating temperatures stated;

	90°C (194°F)	100°C (212°F)	110°C (230°F)	120°C (248°F)	130°C (266°F)	140°C (284°F)
Overcoat	10 min	8 min	6 min	4 min	2 min	1 min

Appearance

Mixed Material Colour	Grey Thixotropic Liquid
Base Component Colour	Grey Highly Structured Thixotropic Liquid
Activator Component	Amber Thixotropic Liquid

Available Colours

Grey

Over Coating Times

Maximum	The over coating time should not exceed 12 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.

Mixing Ratio

Component	Base	Activator
By Weight	2.55	1
By Volume	5.5	1

Density

Base	0.52
Activator	0.95
Mixed	0.53

Solids Content

100%

Slump Resistance

Nil at 2000 microns

Useable Life

10°C (50°F)	4 hours
20°C (68°F)	120 mins
30°C (86°F)	60mins

Pack Sizes

1LTR (0.25 US Gall)	4LTR (1.1 US Gall)	13LTR (3.5 US Gall)
---------------------	--------------------	---------------------

Shelf Life

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

Mechanical Properties

Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75 micron profile)	183kg/cm ² (2,600 psi)
Corrosion Resistance ASTM B117	Minimum 5000 hours
Flexural Strength ASTM D790	522kg/cm ² (7,400 psi)
Hardness Shore D ASTM D2240	80
Thermal Conductivity	Tested to ASTM C-335 0.056 BTU/hr/ft ² /°F Tested to ISO 8301 0.09W/mk
Personnel Protection Tested to ASTM C-155	Pass 5 second exposure test at 140°C

Heat Resistance

Suitable to dry heat up to 140°C (248°F)

Temperature Reduction

Abrasive blast cleaned plate was coat with 3mm of coating and tested at. The temperatures stated below;

Surface Temperature	Touch Temperature
80°C (176°F)	32°C (89.6°F)
90°C (194°F)	35°C (95°F)
100°C (212°F)	38°C (100.4°F)
110°C (230°F)	41°C (105.8°F)
120°C (248°F)	44°C (111.2°F)
130°C (266°F)	47°C (116.6°F)
140°C (280°F)	50°C (122°F)

Chemical Resistance

The product demonstrates resistance to a wide variety of inorganic acids, alkalis, salts and organic media. Refer to the Unique Polymer Systems Technical Centre for advice.

Global Availability

UPS 555 TC THERMIC COATING 140 X is available from a network of Global Distributors for prompt delivery. For further details and the location of your local distributor, please contact Unique Polymer Systems on:

+44(0) 1531 636300 | sales@uniquepolymersystems.com

Technical Service

Complete technical assistance is available. Please contact Unique Polymer Systems with your requirements:

+44(0) 1531 636300 | sales@uniquepolymersystems.com

The products that we supply are for professional use only, it is your responsibility to read the technical data sheets before you place an order and prior to application of the product.

Quality: All Unique Polymer Systems Products are supplied under the scopes of the company's fully documented quality system.

Warranty: Unique Polymer Systems warrants that the performance of the product supplied will confirm to the typical descriptions quoted within this Technical Data Sheet provided the material is stored correctly and used according to the procedures detailed in the Technical Data Sheet for the material.

Health & Safety: Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material Safety Data Sheet.

Legal Notice: The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Unique Polymer Systems accepts no liability arising out of the use of this information or the product described herein.