



Unique Polymer Systems

ADVANCED POLYMER SURFACE ENGINEERING TECHNOLOGY

### Unique Polymer Systems – Hycote 175



UPS 'Hycote 175' is a high performance solvent free coating designed for use where exceptional resistance to chemical attack is required.

UPS 'Hycote 175' is based on a special Phenolic epoxy resin and a polyamine curing agent system which produces a highly cross linked polymer network. This unique system prevents permeation and subsequent attack of the coating by highly aggressive chemicals, allowing the system to be used whenever superior chemical resistance is required.

UPS 'Hycote 175' offers excellent adhesion to steel and concrete, has outstanding resistance to a wide range of industrial chemicals even under total immersion conditions and is ideal for tanks, pipework, containment dykes, bund areas, desulphurisation units etc.

**Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.**

#### SURFACE PREPARATION

**Steel Surfaces** - All surfaces to be coated should be abrasive blast cleaned to a minimum Sa2½ in accordance with BS7079 Part A1:1989 or equivalent with a blast profile corresponding to 'Medium' in accordance with BS7079 Part C3 / ISO 8503 / 1. All loose abrasive dust and debris must be blown clear or vacuum cleaned away. Steel surfaces do not require priming but should be coated within 4 hours of blast cleaning to prevent rusting.

**Concrete Surfaces** - All concrete to be coated should either be lightly abrasive blast cleaned using wet or dry abrasive techniques or alternatively high pressure water jetting. Care must be taken not to expose the aggregate in the concrete. All dust and abrasive material shall be removed from the surface prior to coating.

Concrete surfaces should have a moisture content of 7% prior to any coating being applied.

Concrete surfaces should be primed with either UPS 'Low Viscosity MP Primer' or UPS 'MA3 Tie-Coat' in accordance with the product tech sheet.

#### MIXING

UPS 'Hycote 175' is a two component material comprising resin and hardener components which must be mixed together prior to use.

Stir the contents of the resin component, continue stirring and gradually add the total contents of the hardener container, stir the combined mix until completely homogeneous.

The mixed materials should be used within 30 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

#### APPLICATION

Application should not be carried out at temperatures below 5°C nor when relative humidity exceeds 85% or when the surface to be coated is less than 3°C below the dew point.

Best application results are obtained at a minimum substrate and product temperature of 20°C. For optimum chemical resistance, the system must be applied and cured at a minimum temperature of 20°C for at least 7 days prior to return to service.

UPS 'Hycote 175' is suitable for application by brush or roller, using good quality brushes or short to medium pile rollers.

On concrete surfaces it is important to stipple the UPS 'Hycote 175' into the primed surface to ensure good wetting of the surface.

For large applications UPS 'Hycote 175' can be applied by dual feed hot airless spray equipment, full technical details can be supplied on request from the UPS Technical Centre.

All equipment should be cleaned IMMEDIATELY after use with UPS 'Cleaner'.

#### Theoretical Coverage Rate

2.9 m<sup>2</sup>/kg at 300 microns dft (31 ft<sup>2</sup>/litre at 12 mils dft)

#### Typical Film Thickness

Wet 300 microns (12 mils)

Dry 300 microns (12 mils)

Normally applied as a two coat system to achieve a nominal film thickness of 600 microns.

**Note:** The thickness to be applied should be agreed between the Specifier and the Manufacturer dependent on operational performance requirements.

### PHYSICAL CONSTANTS

<b>Mixing Ratio</b>	2 parts resin to 1 part hardener by volume	
<b>Appearance</b>	Resin	Viscous coloured liquid
	Hardener	Clear Amber Liquid
<b>Drying &amp; Cure times at 20°C (68°F)</b>		
	Usable Life	30 minutes
	Initial Set	4½ hours
	Min. Overcoating	4½ hours
	Max. Overcoating	24 hours
	Full Cure	7 days
<b>Volume Solids</b>	100%	
<b>V.O.C</b>	Nil	
<b>Shelf Life</b>	Use within 5 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F)	
<b>Food Contact</b>	Meets U.S.D.A. requirements for incidental food contact.	
<b>Chemical Resistance</b>	Unaffected by total immersion in:- (At 20°C):	
	Acetic Acid up to 20%	
	Hydrochloric Acid up to 35%	
	Orthophosphoric Acid up to 75%	
	Sulphuric Acid up to 98%	
	Nitric Acid up to 30%	
	Sodium Hydroxide All Concentrations	

### PHYSICAL PROPERTIES

<b>Abrasion Resistance</b> ASTM D4060	60 mgm loss per 1000 cycle cycles - 1 kg load . CS17 Wheel
<b>Impact Resistance</b> ASTM D2794	2.2 joules (191/2 in/lbs)
<b>Dry Heat Resistance</b> ASTMD2485	177°C (350°F))
<b>Water Vapour Permeability</b> ASTM D1653	4.69 x 10-6 perm.cm
<b>Salt Fog Resistance</b> ASTM B117	Excellent, unaffected after 10,000 hrs exposure
<b>Humidity Resistance</b> BS3900 Part F2	Unaffected 5,000 hours exposure

### HEALTH AND SAFETY

As long as normal good practice is observed UPS 'Hycote 175' can be safely used.

Protective gloves should be worn.

Vapour masks should be worn for spray application.

A fully detailed Material Safety Data Sheet is either included with the material or is available on request.

### PACKAGING

Supplied in 5kg packs.

### FOR FURTHER INFORMATION PLEASE CONTACT



The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests.



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