



# TECHNICAL DATASHEET

## CHEMI-TECH U.C.

### Two Component Solvent Free Epoxy Coating



**Thortex Chemi-Tech U.C.** is a high performance solvent free coating designed for use where exceptional resistance to chemical attack is required.

**Thortex Chemi-Tech U.C.** 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.

**Thortex Chemi-Tech U.C.** 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 rash 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 maximum moisture content of 7% prior to any coating being applied.

Concrete surfaces should be primed with either **Thortex Floor-Tech SP Primer** or **Thortex Uni-Tech MC Primer** in accordance with the product tech sheet.

### MIXING

**Thortex Chemi-Tech U.C.** is a two component material comprising base and activator components which must be mixed together prior to use.

Stir the contents of the base component, continue stirring and gradually add the total contents of the activator container, stir the combined mix until completely homogenous.

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.

**Thortex Chemi-Tech UC** 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 **Thortex Chemi-Tech UC** into the primed surface to ensure good wetting of the surface.

For large applications **Thortex Chemi-Tech UC** can be applied by dual feed hot airless spray equipment, full technical details can be supplied on request from the **Thortex Technical Centre**.

In areas requiring a slip deterrent finish, **Thortex H.D. or W.D Grip** should be incorporated into the first coat with a further two coats of **Thortex Chemi-Tech UC** applied to seal the grip material and ensure the desired chemical resistance.

All equipment should be cleaned IMMEDIATELY after use with **Thortex Universal Cleaner**.

#### Theoretical Coverage Rate

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

#### Recommended Film Thickness

Wet 300 microns (12 mils)

Dry 300 microns (12 mils)

**Note:** Normally applied as a two coat system to achieve a minimum film thickness of 500 microns.

Detailed working recommendations are available from the Technical Centre on request.

### PHYSICAL CONSTANTS

**Mixing Ratio** 2 parts base to 1 part activator by volume

**Appearance** Base Viscous coloured liquid  
Activator Clear Amber liquid

#### Drying & Cure Times

|                       |                     |            |
|-----------------------|---------------------|------------|
| <b>at 20°C (68°F)</b> | Usable Life         | 30 minutes |
|                       | Initial Set         | 4½ hours   |
|                       | Minimum Overcoating | 4½ hours   |
|                       | Maximum Overcoating | 24 hours   |
|                       | Full Cure           | 7 days     |

**Volume Solids** 100%

**V.O.C.** Nil

**Shelf Life** Use within 5 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).

**Food Contact** Meets USDA requirements for incidental food contact.  
FOR FURTHER INFORMATION PLEASE CONTACT

### Chemical Resistance (At 20°C)

Unaffected by total immersion in:-  
Acetic Acid up to 20%  
Hydrochloric Acid up to 35%  
Ortho Phosphoric Acid up to 75%  
Sulphuric Acid up to 98%  
Nitric Acid up to 30%  
Sodium Hydroxide All Concentrations

### PHYSICAL PROPERTIES

|                                  |                                 |
|----------------------------------|---------------------------------|
| <b>Abrasion Resistance</b>       | 60 mgm loss per 1000 cycles     |
| ASTM D 4060                      | -1 kg load-CS17 wheel           |
| <b>Impact Resistance</b>         | 2.2 joules (19½ in/lbs)         |
| ASTM G14                         |                                 |
| <b>Dry Heat Resistance</b>       | 177°C (350°F)                   |
| ASTM D2485                       |                                 |
| <b>Water Vapour Permeability</b> | 4.69 x 10 <sup>-6</sup> perm.cm |
| ASTM D1653                       |                                 |
| <b>Salt Fog Resistance</b>       | Excellent, unaffected after     |
| ASTM B117                        | 10,000 hrs exposure             |
| <b>Humidity Resistance</b>       | Unaffected 5,000 hrs exposure   |
| BS 3900 Part F2                  |                                 |

### HEALTH AND SAFETY

As long as normal good practice is observed **Thortex Chemi-Tech U.C.** 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 2, 5 and 20kg packs

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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