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TECHNICAL DATASHEET

CHEMI-TECH P.U.

Two Component Solvent Free Polyurethane Coating

Thortex Chemi-Tech P.U. is a high performance solvent free polyurethane coating designed for use as a lining system for tanks, containment areas and steelwork.

Thortex Chemi-Tech P.U. is based on a complex blend of high molecular weight polyols and urethane polymers blended with inert pigments and silicas reacted with an amine accelerated isocyanate resin which produces a system with exceptional abrasion, erosion, chemical and corrosion resistance.

Thortex Chemi-Tech P.U. offers a high degree of flexibility and is suitable for use on steel, concrete, aluminium, GRP, galvanised or mineral surfaces subject to chemical attack.

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 S.F.U. Primer** or **Thortex Floor-Tech F.B. Primer** in accordance with the product tech sheet.

MIXING

Thortex Chemi-Tech P.U. 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 homogeneous.

The mixed materials should be used within 20 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 2°C nor when relative humidity exceeds 85% or when the surface to be coated is less than 3°C below the dew point.

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

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

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

Theoretical Coverage Rate
2 m²/litre at 500 microns dft (21 ft²/litre at 20 mils dft)

Recommended Film Thickness per coat
Wet 500 microns (20 mils)
Dry 500 microns (20 mils)

Note: For immersion service conditions two coats to achieve a minimum total dft of 750 microns are recommended.

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

PHYSICAL CONSTANTS

Mixing Ratio	3 parts base to 1 part activator by volume	
Appearance	Base	Viscous coloured liquid
	Activator	Dark brown liquid
Drying & Cure Times at 20°C (68°F)	Usable Life	20 minutes
	Touch Dry	4 hours
	Hard Dry	8 hours
	Minimum Overcoating	4 hours
	Maximum Overcoating	24 hours
	Full Cure	7 days
Volume Solids	100%	
V.O.C.	Nil	
Shelf Life	Use within 2 years if 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 contact. Meets FDA requirements CFR 21.175.300 for food contact.	
Potable Water	Approved for contact with potable water under the United Kingdom Water Regulations Advisory Scheme, in accordance with BS 6920.	

FOR FURTHER INFORMATION PLEASE CONTACT

PHYSICAL PROPERTIES

Abrasion Resistance ASTM D4060	130 mgm weight loss per 1000 cycles-1kg load- CS17 Wheel
Impact Resistance ASTM D256	19.75 Joules (175 in lbs)
Direct Pull Adhesion ASTM D4541	63 kg/cm² (900 psi) - steel 35 kg/cm² (500 psi) - concrete (Concrete Failure)
Dry Heat Resistance ASTM D2485	100°C (212°F)
Water Vapour Permeability ASTM D1653	5.6×10^{-6} perm.cm
Salt Fog Resistance ASTM B117	Excellent, unaffected after 10,000 hours exposure
Tensile Strength ASTM D638	200 kg/cm² (2825 psi)
Scratch Resistance BS 3900 Part E2	No failure 2.5 kg (5.5 lbs) load

HEALTH AND SAFETY

As long as normal good practice is observed **Thortex Chemi-Tech P.U.** 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 4 and 20 litre packs

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