



FIBRETHANE

TECHNICAL DATA

SELF-REINFORCED POLYURETHANE TANK CLADDING SYSTEM

THE PRODUCT AND ITS USES

FibreThane is a self-reinforcing resin specifically formulated for use in the manufacture of composite storage tanks consisting of a steel inner and a polyurethane outer shell. FibreThane is stronger, tougher, and safer than the polyester and glass fiber mixtures used in the past. FibreThane is a corrosion resistant, solvent-free, 100% solids, liquid-applied polyurethane coating that offers an outstanding level of all-round, long term protection at an extremely competitive price. Because FibreThane cures with such a high cross-link density it is self-reinforcing or self-fibrating. Testing performed by Underwriters Laboratories shows that 70 mils of FibreThane outperforms 100 mils of reinforced polyester in every respect, making FibreThane an excellent alternative to FRP cladding systems. FibreThane carries a thirty year warranty through the Steel Tank Insurance Company.

FibreThane requires no primer and sets in minutes even at sub zero temperatures. Application is via two component 1:1 heated spray equipment. Total thickness of exterior cladding is spray applied in one continuous operation within one hour. FibreThane is non-flammable and has near zero VOCs. It contains no amines, coal tar, styrene, isocyanate monomer or ketones. FibreThane is sold only to licensed tank manufacturers.

APPROVALS AND LISTINGS

Steel Tank Institute (STI) **ACT 100**
 Steel Tank Institute (STI) **ACT 100-U**
 Underwriters Laboratories (UL) **UL1746 (part II and IV)**

TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	-10°C(15°F) to 65°C(150°F)
Initial Setting Time	@ 20°C/70°F	5 to 10 minutes
Curing Time Before Handling	@ 20°C/70°F	15 to 30 minutes
Ultimate Cure	@ 20°C/70°F	3 to 5 days
	@ -15°C/10°F	8 to 10 days
Recoat Time	@ 20°C/70°F	15 to 60 minutes (see application instructions)
Solids Content	ASTM D-1259	98% +/- 2%
Volatile Organic Compounds (VOCs)	ASTM D-2369	12 grams/litre (0.105 lbs/gal)
Theoretical coverage	N/A	980 m ² /litre/micron (1580 ft ² /US gallon/mil)
Adhesion to steel	ASTM D-4541 (SSPC - SP5)	Greater than 1500 p.s.i.
Hardness	ASTM D-2240 Shore D	70 +/- 5
Flexibility	ASTM D-522 (15 mils)	180° mils over 1" mandrel
Abrasion Resistance	ASTM D-4060 (CS-17)	80 mg loss @ 1 kg, per 1000 cycles
Permeability	ASTM E-96B (15 mils)	0.005 perm inches
Resistance to Cathodic Disbondment	ASTM G8 (STP 28 days)	Excellent; less than 10 mm radius
Chemical Resistance	ASTM D-543	See Chemical Resistance Chart
Ultraviolet Resistance	ASTM G-154	Will chalk and darken
Service Temperature	ASTM D-870	-40°C(-40°F) to 60°C(140°F)
Colors		Black, Mid-Brown

NOTE: All statements, technical information and recommendations contained herein are typical of results obtained under laboratory conditions and are not intended to be used as contract specifications. For specification guidelines please contact Madison Chemical.

APPLICATION INSTRUCTIONS

CONTACT MADISON FOR DETAILED APPLICATION INSTRUCTIONS.

A. SURFACE PREPARATION

- 1) Ensure that surface is clean, dry, and uncontaminated. Proceed only if the substrate temperature is more than 3°C(5°F) above the dew point temperature during surface preparation and coating application.
- 2) Abrasive blast, using angular medium, to a Commercial Blast (SSPC-SP6; NACE 3; SA 2) with a minimum 2.5 mil (65 micron) profile.
- 3) See Madison Application Instructions for details.

B. APPLICATION OF COATING

- 1) Mechanically agitate individual components thoroughly before use to disperse pigments and assure homogeneity. Do not thin. Do not mix "A" and "B" together.
- 2) Spray-apply using a plural component, 1:1 mix ratio, heated airless spray unit.
- 3) Unlimited film thickness can be obtained in one continuous coating operation, using one of several techniques. Typical applied thickness is 70 mils (1750 microns). Contact Madison for detailed instructions.
- 4) The tank being coated should be suspended in a turning device capable of spinning the tank at 3 to 5 revolutions per minute.
- 5) Successive coats may be applied over the first, if they are applied within the recoat window. Recoat time will reduce with increased applied thickness and ambient temperatures. If the recoat window lapses, roughening of the surface will be necessary to ensure good intercoat adhesion.

C. CLEAN-UP AND STORAGE

- 1) This material will react with humidity and moisture. Keep containers tightly sealed and store upside down. For clean-up, use Madison VR-1 Viscosity Reducer, M.E.K. or a 50:50 blend of M.E.K. and Xylol. Other solvents may react with product.
- 2) Store between 10°C(50°F) and 27°C(80°F). DO NOT FREEZE. Use product within 6 months of receiving.

HEALTH AND SAFETY

FibreThane is intended for industrial use only. It contains no monomeric isocyanates but may nevertheless cause respiratory distress in some people. Provide ample ventilation. Wear a fresh air respirator when using in confined areas or when spraying. Wear rubber gloves, safety goggles and protective clothing. If swallowed, DO NOT induce vomiting as this will cause additional throat irritation; contact physician. If splashed on skin, remove immediately with rubbing alcohol and then wash with soap and water. If splashed in eyes, wash liberally with clean water and contact physician; temporary irritation of eyes may last several days. Contains trace amounts of ingredients that may cause skin cancer after prolonged direct skin contact, therefore, commonly used skin protection is recommended. See MSDS for more information. The finished product is completely inert.

LIMITED TWO YEAR WARRANTY

Madison will replace any product which, in service for which it is suitable, fails to meet specifications within two years of sale and which is proven to be defective when applied according to instructions by a Madison Approved Applicator or Certified OEM Applicator. Madison accepts no responsibility or liability for any other loss, claim, damage, injury or expense, direct or consequential, in contract or negligence. This product replacement warranty is in lieu of any other right, warranty, guarantee or condition, statutory or otherwise, expressed or implied, whether as to fitness for a particular purpose or as to merchantable quality or otherwise.

The information contained herein is believed to be accurate as of the date of publication. Madison reserves the right to change product specifications without notice.

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