High and Tank Technical Data Sheet - Internal Tank Lining

Polyurethane Tank Lining

The Product and its Uses

A high performance protective coating with unique handling and performance characteristics, it is a two component, 1:1 format product that can be applied in one coat, without a primer, to an unlimited build. This coating is available with a choice of setting times ranging from 1 to 30 minutes and a choice of high build or low viscosity versions. It cures at subfreezing temperatures and can be used with various equipment configurations.

Internal polyurethane is highly resistant to corrosion, abrasion, immersion, waterborne chemicals and cathodic disbondment. It

contains absolutely no solvent, tar, styrenes or isocyanate monomers, to totally inert when cured and nonflammable. Polyurethane is environmentally friendly and extremely safe to use. End uses encompass applications where epoxies or coal tar polyurethanes might be used, but the applicator or specifier wishes to avoid the health and environmental hazards associated with these products. Specific applications include above and below ground storage tanks, oil/water separators as well as concrete structures.

Certifications and Quality Standards

- Underwriters Laboratories Certification - Flammable and Combustable Liquid Tank Accessories - Components: UL 2215 - Outline of Investigation for Oil/Water Separators, for interior corrosion protectioncoatings for oil/water separators.
- Meets Green Seal Standard GS-11 for VOC and Chemical content

Application Instructions

Contact Highland Tank for detailed application instructions

A. Surface Prepartion

- Ensure that surface is clean, dry and uncontami nated. Proceed only if the substrate temperature is more than 3° C (5° F) above the dew point temperature during surface preparation and coating application.
- Abrasive blast clean with sand or grit (G40 or coarser). DO NOT USE steel shot or nonangular media. For steel surfaces, blast to a Near White Blast (SSPC-SP10; NACE 2; SA 2.5):

- minimum 2.5 mil (65 microns) profile for immersion;

 minimum 2.0 mil (51 microns) profile for buried;
minimum 1.5 mil (38 microns) profile for atmospheric service. For concrete surfaces, abrasive blast to remove any latiance.

B. Application of Coating

 Roll or 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 15 mils (375 microns) as per SSPC PA2.

- A second coat may be applied over the first, if it is applied within the recoat window. Otherwise, it may be necessary to roughen the surface to ensure good intercoat adhesion.
- Allow coating to cure completely before putting into service. Follow decontamination procedure to remove any dirt and debris.

C. Clean-Up and Storage

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

Health and Safety

Internal Polyurethane Tank Lining 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 which may cause skin cancer following prolonged direct skin contact. Therefore commonly used skin protection is recommended. See MSDS for more information. The finished product is completely inert.

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

Chemical Resistance Information

Highland Internal Polyurethane Tank Lining is recommended for storing the solutions listed below. Highland offers an Epoxy Tank Lining suitable for most other applications.

Fresh Water

Distilled Water De-ionized Water

Sewage (Waste Water)

Raw Sewage Treated Effluent Hydrogen Sulfide Gas

Salt Water

Sea Water Brine

Acids

Sulfuric <20% Hydorchloric <15%

Alkalies

Ammonium Hydroxide <20% Potassium Hydroxide <10% Potassium Hydroxide >10% Sodium Hydroxide <10% Soaps Detergents Calcium Chloride

Aliphatic Hydrocarbons

Crude Oil Diesel Kerosene Fuel Oil #2, 4, & 6 Hydraulic Oils Motor Oil

Typical Prop	erties
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Property	Test Description	Results
Solids, by volume	N/A	100%
VOC (Supplied and Sprayable)	N/A	Zero
Components	N/A	Тwo
Curing Mechanism	N/A	Chemical Reaction
Mix Ratio, by volume		1:1
Weight per mixed gallon	N/A	9.6 lbs/gallon (4.3 kg/gallon)
Theoretical Coverage	N/A	1604 sq. ft. per gallon per mil (149 sq. m/gallon per mil)
Primer Required		None Required
Application Temperature Range	N/A	35° F - 120° F (2° C - 49° C)
Recommended Thickness	N/A	15 mil minimum
Adhesion to steel (SP10; 2.5 Mil)	N/A	2000 +/- 200 p.s.i.
Hardness	ASTM D-2240	77 Shore D
Tensile Strength	ASTM D 638	5500 psi (38 mpa)
Flexibility	ASTM D-522	180° bend over 1" mandrel @ 15 mils
Impact Strength	ASTM G - 14	>30 in. lbs.
Abrasion Resistance	ASTM D-4060	60 mg loss (C17, 1 kg, 1000 cycles)
Chemical Resistance	ASTM D-543	See chemical resistance chart
Cathodic Disbondment	ASTM G-8	Excellent, <8 mm radius
Cure to the Touch	N/A	3 - 5 minutes @ 77° F / 25° C
Cure to Handle	N/A	15 - 20 minutes @ 77° F / 25° C
Time to Recoat	N/A	15 - 20 minutes @ 77° F / 25° C
Service Temperature	ASTM D-870	-40° C (-40° F) to 49° C (120° F) Wet
Colors		20 Stock choices, custom colors available

NOTE: All statements, technical information and recommendations contained herein are typical of results obtained under laborato

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