



Internal 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.

Approvals and Listings

Underwriters Laboratories: UL 2215

Technical Information

Property	Test Description	Results
Applications Temperatures	N/A	-20° C(0°F) to 48° C (120°F)
Viscosity	Brookfield Viscometer	1000+/- 300 cps (HB); 400 +/- 200 cps (LV)
Initial Setting Time	@ 20° C/70° F	Four choices from 1 to 30 minutes
Curing Time Before Handling	@ 20° C/70° F	Three times initial set time
Ultimate Cure	@ 20° C/70° F	4-7 days
Recoat Time	@ 20° C/70° F	60 minutes
Solids Content	ASTM D-1259	99 +/- 1%
Volatile Organic Compounds (VOCs)	ASTM D-2369	Less than 8.1 grams/litre (0.07 lbs/US gal)
Theoretical coverage	N/A	39m_/litre/25 microns (1605 ft_/US gal/mil)
Adhesion to steel	ASTM D-4541 (SSPC-SP5)	Greater than 1200 p.s.i.
Adhesion to concrete	ASTM D-4541	Greater than cohesive strength of concrete
Hardness	ASTM D-2240 Shore D	70 +/- 5
Flexibility	ASTM D-522 (20 mils)	180° over 2" mandrel
Chemical Resistance	ASTM D-543	See chemical resistance chart
Impact Resistance	ASTM D-2794 (20 mils)	60 in. lbs.
Abrasion Resistance	ASTM D-4060 (Taber CS-17)	75 mg loss @ 1 kg per 1000 cycles (standard version)
25 mg loss (CM version)		
Resistance to Cathodic Disbondment	ASTM G-8 (STP, 28 days 20 mils)	Excellent, 10 mm average radius
Ultraviolet Resistance	ASTM G-53	Some colors are suitable for outdoor use
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 laboratory conditions and are not intended to be used as contract specifications. For specification guidelines please contact Highland Tank.

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 clean with sand or grit (G40 or coarser). DO NOT USE steel shot or non-angular 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 laitance.

B. Application of Coating

- 1) 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. Contact Highland Tank for detailed instructions.
- 4) A second coat may be applied over the first, if it is applied within the re-coat window. Otherwise, it may be necessary to roughen the surface to ensure good inter-coat adhesion.
- 5) Allow coating to cure completely before putting into service. Follow decontamination procedure to remove any dirt and debris.

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 MEK, or a 50:50 blend of MEK 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.

Contact Highland Tank if more detailed application instructions are required.

Health and Safety

Internal Polyurethane Tank Lining is intended for industrial use only. It contains no monomeric 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.



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