



CORROCOTE II ULTRALINER

TECHNICAL DATA

HIGH PERFORMANCE POLYURETHANE TANK LINING SYSTEM

THE PRODUCT AND ITS USES

CorroCote II UltraLiner is a zero VOC, plural component, instant setting, 100% solids polyurethane coating system. It is specifically formulated for immersion service, for example to protect storage tanks (water, petrochemicals, waste and chemicals), secondary containment dikes and similar structures from corrosion, chemical attack and abrasion.

CorroCote II UltraLiner is applied in a one multi-pass coat. It cures to form a tough, durable, non-leaching, structural (rigid yet flexible) polymer film, offering superior temperature and chemical resistance. It has industry-leading performance properties in terms of outstanding adhesion, low absorption, low permeability and extremely high "wet adhesion" (the ability to retain high adhesion values during continuous immersion).

For extremely abrasive conditions, we can incorporate an additive called NanoShield, which consists of ceramic nano-spheres that enhance the already-high abrasion resistance of this product. Also available is Madison's MicroSpear (an EPA-approved anti-microbial additive), which can be specified at the time of order; this is effective in all situations where microbial attack may be a problem (e.g. acidic wastewater conditions) or where public health and safety is a concern (kills all bacterial strains such as e-coli on contact).

TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	-40°C(-40°F) to 65°C(150°F)
Initial Setting Time	@ 70°F/20°C	1 minute (snap set), 5 minutes (fast set)
Curing Time Before Handling	@ 70°F/20°C	5 minutes (snap set), 15 minutes (fast set)
Ultimate Cure	@ 70°F/20°C	4 days
Recoat Time*	@ 70°F/20°C	within 30 min. (snap set) 15 min (fast set)
)Content	ASTM D-1259	100%
Volatile Organic Compounds (VOCs)	ASTM D-2369	0 grams / litre
Theoretical coverage	N/A	1016 m ² /litre/micron (1604 ft ² /US gal/mil)
Adhesion to steel	ASTM D-4541 (SSPC SP5)	Greater than 2500 p.s.i.
Adhesion to Concrete	ASTM D-4541	Exceeds cohesive strength of concrete
Hardness	ASTM D-2240 Shore D	75 +/- 5
Flexibility	ASTM D-522 (20 mils)	180° over 3" mandrel
Abrasion Resistance	ASTM D-4060 (CS-17 wheels, 1 kgs weights, 1000 revolutions)	50 mg (standard version) 30 mg (NanoShield version)
Permeability	ASTM E-96 (15 mils)	0.02 metric perms
Resistance to Cathodic Disbondment	CSA Z-245 (65°C, 48 hours, 20 mils)	5 mm average radius
Chemical Resistance	ASTM D-543	Excellent; see Chemical Resistance Chart
Dielectric strength	ASTM D-149	Greater than 200 volts per mil
Surface Resistivity	ASTM D-257	1 x 10 ¹⁴ ohms per cm ²
Water Absorption	ASTM D-471	Very low: 1 to 1.5%
Impact Resistance	ASTM D-2794 (20 mils)	Excellent; 100-150 in. lbs.
Ultraviolet Resistance	ASTM G-154	Will chalk and darken
Temperature Resistance	ASTM D-870, ASTM D-2485	-40°C(-40°F) to 90°C(195°F) Wet -40°C(-40°F) to 125°C(250°F) Dry
Colors		Consult Madison Representative

*However, recoat window varies depending on the spray equipment temperature setting, the ambient conditions, product temperature/thickness, and the temperature of the substrate being coated.

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 clean with an angular media (sand, slag, steel 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 3.0 mil (75 microns) profile for immersion; 2.5 mil (65 microns) profile for buried; 2.0 mil (50 microns) profile for atmospheric service.
As an alternative to abrasive blasting, prepare surface of steel with water jet blast at 30,000 psi to remove mill scale; provide profile of 35 microns or more.
For **concrete** surfaces, abrasive blast or water jet to remove any laitance. A primer or rendering material may be required to fill in any visible holes or cracks in the concrete surface.

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. Minimum applied thickness is 15 mils (375 microns) as per SSPC PA2; for long term results, we recommend 30 to 40 mils (750 microns to 1mm). Contact Madison for detailed instructions.
- 4) Product is intended to be applied in one multi-pass coat. If a second coat is required, do so within the recoat window. Otherwise, it will be necessary to roughen the surface to ensure good intercoat adhesion.
- 5) Allow coating to cure completely before putting structure into immersion service.
- 6) See Madison Application Instructions for details.

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

CorroCote II UltraLiner 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 no known or suspected carcinogens or mutagens. 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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