



MARITHANE II ULTRALINER

TECHNICAL DATA

ULTIMATE COATING FOR HARSH MARINE ENVIRONMENTS

THE PRODUCT AND ITS USES

MariThane II UltraLiner is a two component, 100% solids, solvent-free polyurethane protective lining for use in harsh marine applications where aggressive chemicals and high temperatures are anticipated, such as in on board containment tanks and dock/port holding vessels (See Chemical Resistance Chart). Other performance characteristics include high abrasion resistance and low co-efficient of friction. The finished product is a structural (rigid yet flexible) polymer film.

MariThane II UltraLiner reduces cost by improving productivity, increasing throughput and providing long term protection. MariThane II UltraLiner is one of the comprehensive series of coatings and linings for harsh commercial and marine applications. For other marine related end uses, please contact your Madison representative.

MariThane II UltraLiner (CM) is a ceramic modified version of the MariThane II UltraLiner material that offers enhanced abrasion resistance and is ideal for highly abrasive or high flow applications.

MariThane II UltraLiner (AM) is a modified version of MariThane II UltraLiner that offers protection against microbiological attack. Although the standard formulation is not susceptible to bacterial attack, the EPA registered Anti-Microbial agent in MariThane II UltraLiner (AM) provides for extended service life in marine applications.

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	30 minutes (snap set), 1 hour (fast set)
Solids 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 2000 p.s.i.
Adhesion to ductile iron	ASTM D-4541	Greater than 2000 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) 15 mg (CM version)
Permeability	ASTM E-96 (15 mils)	0.002 perm inches
Resistance to Cathodic Disbondment	CSA Z-245 (65°C, 48 hours, 20 mils)	10 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	Less than 3%
Impact Resistance	ASTM D-2794 (20 mils)	Very Good; greater than 50 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 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 3.0 mil (75 microns) profile for immersion;
 - minimum 2.5 mil (65 microns) profile for buried;
 - minimum 2.0 mil (50 microns) profile for atmospheric service.For **ductile iron** surfaces, abrasive blast to achieve a surface anchor profile of 2.5 mils or greater. Remove all rust and loose oxides.
For **concrete** surfaces, abrasive blast to remove any laticence.
- 3) See Madison Application Instructions for details.

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. Contact Madison for detailed instructions.
- 4) For coating on a conveyor line, a uniform pipe temperature of between 20°C(70°F) and 55°C(120°F) is required to enable the coating to cure quickly. Otherwise, substrate temperature is unimportant.
- 5) A second coat may be applied over the first, as long as it is applied within the recoat window. Otherwise, it may be necessary to roughen the surface 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

MariThane 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 totally inert and harmless.

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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Phone: 905-878-8863 Fax: 905-878-1449 490 McGeachie Drive, Milton, Ontario Canada L9T 3Y5
e-mail: sales@madisonchemical.com Web: www.madisonchemical.com
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