

**TUFSHEEN® II****TECHNICAL DATA****100% SOLIDS ALIPHATIC POLYURETHANE COATING SYSTEM****THE PRODUCT AND ITS USES**

TufSheen II is a two component, 100% solids aliphatic polyurethane coating that offers excellent color and gloss retention. It cures to a hard, plastic layer with outstanding impact and abrasion resistance. Tear strength and tensile strength are high. It is the only aliphatic polyurethane coating on the market that is both VOC free and fast setting.

TufSheen II comes with a choice of setting times from 10 to 45 minutes and can be applied in one coat without a primer (on steel). Tufsheen II is non-flammable, cures in cold weather and can dramatically improve your productivity by increasing throughput.

TufSheen II will be your best coating choice when you want to protect an outdoor structure for many years while achieving high rates of output during the coating process. Shop-applied examples are above ground storage tanks, utility poles and fabricated steel structures. In the field, TufSheen II is ideal for coating bulk storage tanks and refinishing metal panels.

TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	-10°C(10°F) to 65°C (150°F)
Initial Setting Time	@20°C/70°F	10 to 45 minutes
Curing Time Before Handling	@20°C/70°F	20 to 60 minutes
Ultimate Cure	@20°C/70°F	7 to 10 days
Recoat Time*	@20°C/70°F	3 times initial set time
Solids Content	ASTM D-1259	98 ± 2%
Volatile Organic Compounds (VOC's)	ASTM D-2369	0 grams/litre
Theoretical Coverage	N/A	1604 ft ² /US gal/mil; 975 m ² /litre/micron
Adhesion to Steel	ASTM D-4541 (SSPC-10)	> 700 psi
Adhesion to Concrete	ASTM K-4541	Greater than cohesive strength of concrete
Hardness	ASTM D-2240 Shore D	40 to 50
Flexibility	ASTM D-522 (15 mils)	180° over knife edge
Elongation	ASTM D-412	Greater than 50%
Abrasion Resistance	ASTM D-4060 (CS-17 Taber, 1 kg weights, 1000 revolutions)	40 mg loss
Chemical Resistance	ASTM D-543	Excellent; See Chemical Resistance Chart
Impact Resistance	ASTM D-2794 (20 mils)	100 in. lbs
Permeability	ASTM E-96B (15 mils)	0.002 perm inches
Water Absorption	ASTM D-471	Less than 3% (no absorption below surface)
Ultraviolet Resistance	ASTM G-154	Excellent
Colors		Consult Madison Representative

*However, recoat window varies depending on ambient and substrate temperatures and coating thickness.

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

APPLICATION INSTRUCTIONS

CONTACT MADISON FOR DETAILED [APPLICATION INSTRUCTION BULLETIN](#) (ALSO AVAILABLE ONLINE).

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 angular media (sand, aluminum oxide, garnet, or steel grit G40 or coarser). DO NOT USE steel shot or other non-angular products or slag-based 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 **concrete** surfaces, abrasive blast to remove any laitance.
- 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 TufSheen II 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 5 mils (125 microns). Contact Madison for detailed instructions.
- 4) A second coat may be applied over the first, so long as it is applied within the recoat window. Otherwise, it will be necessary to roughen the surface to ensure good intercoat adhesion.
- 5) Coating will withstand foot traffic, tool impact handling or strapping in 15 to 45 minutes.

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 only Madison VR-1 Viscosity Reducer, as any other reducer or solvent, whether from Madison or a third party, will ruin the 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

TufSheen II is intended for industrial or professional use only. It contains no monomeric isocyanates but may nevertheless cause respiratory distress in some people. Provide ample ventilation in confined areas. Wear a NIOSH-approved cartridge-type face mask or a fresh air respirator in spray area. If swallowed, DO NOT induce vomiting as this will cause additional throat irritation; contact physician for instructions. Protect skin by wearing rubber gloves, safety goggles and protective clothing. If splashed on skin, remove immediately with Madison Reducer (VR-1, VR-2 or VR-4) as product is very solvent resistant once it starts to polymerize (cure). If splashed in eyes, wash liberally with clean water and contact physician; temporary irritation of eyes may last several days. See MSDS for more information. The finished product is totally inert and harmless. Review [Application Instruction Bulletin](#) for additional safety information.

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.

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