

#### Product Description

Multi-Thane 330MR is designed to protect in demanding environments. It provides outstanding color and gloss retention, and it protects surfaces with its great abrasion resistance and resistance against mildew and fungal deterioration on the dry paint film. Multi-Thane 330 resists a wide range of solvents and chemicals under splash and spill conditions. It is a flexible coating and provides tenacious adhesion to a variety of substrates. Multi-Thane 330 performs well in highly corrosive environments or prolonged exterior exposure.

#### Intended Uses

##### Apply to:

- Interior or exterior surfaces
- Galvanized metal
- Masonry surfaces
- Composites
- Structural steel
- Ferrous metal
- Aluminum
- Zinc rich products
- Composites

##### Protects:

- Tanks
- Conveyors
- Processing plants
- Power generating plants
- Resists mildew & fungal deterioration of the dry paint film
- Equipment
- Institutions
- Material handling facilities
- Laboratories

The above are general recommendations and not intended to limit the use of Multi-Thane 330MR. Test areas are always recommended to confirm results.

NOT INTENDED FOR IMMERSION SERVICE.

#### Physical Properties

Resin Type	Aliphatic Isocyanate Converted Acrylic Urethane			
Finish/Sheen	Gloss 85–95 @ 60°			
Bases	White IG-1260			
Mixing Ratio by volume	9 parts resin to 1 part cure			
Cure	IG-0220			
Solids by Weight	74%			
Solids by Volume	59%			
Theoretical Coverage*	948 ft <sup>2</sup> /gal @ 1 mil			
Dry Film Thickness / Coat	2–6 mils (50–150 microns)			
Wet Film to Achieve DFT	3.5–9.7 mils (87.5–242.5 microns)			
Coverage at DFT*	158–474 ft <sup>2</sup> /gal			
VOCs	2.67 lbs./gal (320 grams/liter) Activated			
Thinning	DO NOT THIN			
Clean-up Solvents	Diamond Vogel N-3023 Xylol			
Drying Time** ASTM D1640	At 90°F (32°C)	At 70°F (21°C)	At 50°F (10°C)	At 32°F (0°C)
Set to Touch	30 minutes	1 ½ hours	1 ½ hours	2 ½ hours
Dry Through	4 hours	5 hours	10 hours	24+ hours
Recoat Time – Minimum	4 hours	5 hours	10 hours	24+ hours
Recoat Time – Maximum	7 days	30 days	60 days	---
Induction Time	None			
Pot Life*** @ 70°F (21°C)	3 hours			

\* Coverage rates are estimates based on the products volume solids and make no allowance for material loss during application. Actual spread rates may vary dependent on applicator experience, surface porosity, and texture.

\*\* Dry times vary with surface temperature, air movement, humidity, and film thickness.

\*\*\* Extreme temperatures can dramatically shorten pot life.

**Performance Characteristics**

Multi-Thane 330MR meets or exceeds the following performance testing criteria.

Test Name	Test Method	Results
Abrasion Resistance	ASTM D 4060, Tabor Abrasion Test CS-17 Wheel 1kg Load, 1000 Cycles	No more than 165 mg loss.
Cyclic Weathering	ASTM G 85 Annex A5 2,000 hours	No face blistering, no face rusting, 0–2.5 mm scribe creepage.
Corrosion Resistance	ASTM B 117-94 Salt Spray (Fog) Test 336 hours	No face blistering, no face rusting, 0–2.5 mm scribe creepage. No cracking, softening or delamination of film.
Adhesion - Crosshatch	ASTM D 3359 Cross Hatch	5B average on 3 trials.
Adhesion - Elcometer	ASTM D 4541 Elcometer Pull Off Adhesion	1100+ PSI, pull average on 3 trials.
Exterior Exposure	ASTM D 1014-83. Reapproved 1988. Exposed at south 45°.	Miami, FL, 97% gloss retention after 12 months exposure. Orange City, IA, 98% gloss retention after 11 months exposure. Ocean City, NJ, 88% gloss retention after 9 months exposure.
Flexibility	ASTM D 522, Cylindrical Mandrel	No cracking or delamination of film after full cure.
QUV	ASTM D 4587	1000 hrs, passes
Pencil Hardness	ASTM D 3363-74, Pencil Hardness	2B-HB
Heat Resistance	ASTM D 2485 High Temperature Service	Passes @ 250°F (121°C)
Impact Resistance	ASTM 2794	Direct 100 in./lbs., Reverse 30 in./lbs.

**Chemical Resistance for Splash and Spillage**

Solvents:	Rating	Acid:	Rating	Oils:	Rating	Miscellaneous:	Rating
MEK	VG	Acetic Acid 5%	E	Dirty Motor Oil	VG	Bleach	E
Toluene	VG	Acetic Acid 10%	E	Brake Fluid	VG	Dowanol PM	VG
Xylene	VG	Sulfuric Acid 5%	E	Skydrol	VG	Water	E
Unleaded Gas	VG	Sulfuric Acid 10%	E	Diesel Fuel	E	Hydrogen Peroxide 3%	E
Denatured Alcohol	E	Sulfuric Acid 50%	E	Aviation Hydraulic Fluid	G	Povidone Iodine 10%	G
Methanol	VG	HCL 5%	E	10W30	E	TSP 1%	E
Mineral Spirits	E	HCL 10%	E	Aircraft Motor Oil	E	TSP 10%	E
Triethylamine	VG	HCL 37%	VG	Disc Brake Fluid	G	Windex w/AMD	E
N-Butanol	VG	Phosphoric Acid 10%	E	<b>Salts and Bases</b>		Pot Ash	E
MIBK	VG	Phosphoric Acid 50%	E	Sodium Hydroxide 10%	E	Phosphate Fertilizer	E
Phenol PM Acetate 5%	G	Phosphoric Acid 85%	E	Sodium Hydroxide 50%	E	Nitrogen Fertilizer 28%	E
Isopropyl Alcohol	E	Oleic	E	Ammonium Hydroxide 10%	E	Ammonium Hydroxide Solution 26%	E
Butyl Cellosolve	VG			Ammonium Hydroxide 28%	E		
Perchlorethylene	VG						
Ethylene Glycol	E						

**Rating: E - Excellent, VG - Very Good, G - Good**

The information included in this chart reflects Multi-Thane 330MR's resistance to these chemical in environments where the coating may periodically come in contact with such materials. Cleaning and general maintenance will prolong the integrity of all polyurethane coatings. For more detailed information, contact your local Diamond Vogel sales representative.

## Surface Preparation

All surfaces must be cured, clean, sound, dry, and free of all dirt, dust, efflorescence, wax, oil, grease, chalk, and any other contamination that would interfere with new coating adhesion. The direct-to-metal capabilities of Multi-Thane 330MR provides a single-coat system at reduced installation cost for use in protected environments. For DTM applications minimum recommended surface preparation for iron and steel is SSPC-SP6/NACE No. 3, Commercial Blast Cleaning. For best results all bare surfaces must be properly prepared and primed prior to application of this product.

**Masonry Surfaces: (Poured Concrete, Concrete Block)** New concrete must cure for a minimum of 30 days at 72° F (22° C) prior to coating application. Level all surface projections and mortar spatters by stoning. Rake mortar joints clean and remove all soluble salts.

**Ferrous Metal Surfaces:** An abrasive blast to SSPC-SP-6/NACE No. 3, Commercial Blast Cleaning is recommended for primed, and DTM applications. Prime with Mult-E-Poxy 180 Epoxy Mastic, Mult-E-Prime 500 Hi-Build Epoxy Primer, or Iron Prime 600 Universal Primer. If blasting is not possible, remove loose rust and mill scale per SSPC-SP-2, Hand Tool Cleaning or SSPC-SP-3, Power Tool Cleaning. Prime the surface with Mult-E-Poxy 180 Epoxy Mastic.

**New Galvanized & Aluminum Surfaces:** Remove surface contamination or passivators by scrubbing with a cleaning and etching solution or blast per SSPC-SP-7/NACE No. 4, Brush-Off Blast Cleaning.

**Weathered Galvanized & Aluminum Surfaces:** Power or hand wash with detergent and rinse thoroughly. The surface must be dull and have a profile. Use a cleaning and etching solution (if needed) or blast per SSPC-SP-7/NACE No. 4, Brush-Off Blast Cleaning.

**Previously Painted Metal Surfaces:** Power or hand washing is recommended to remove contamination. If oil or grease is present, use of a cleaner/degreaser is required. All cleaning residue must be completely rinsed from the surface. Allow to dry. Remove all loose coatings, rust, and corrosion by scraping, sanding, or other abrading method as per SSPC-SP-2, Hand Tool Cleaning or SSPC-SP-3, Power Tool Cleaning or abrasive blast as per SSPC-SP-6/NACE No. 3, Commercial Blast Cleaning. Use sandpaper to dull slick, glossy and/or non-porous surfaces with sandpaper.

**Mildew:** Remove by using a solution of one part household bleach and three parts water. Apply to mildewed area and scrub. Allow solution to remain on the surface for 3 to 5 minutes and then rinse completely and allow to dry before coating application.

## Application

Part A (resin) and part B (cure) are packaged in premeasured kits. The mixing ratio is 9 parts A to 1 part B. Mix Part A and Part B separately using an explosion-proof power drill and blade type mixer. Add Part B to Part A and thoroughly mix and blend using an explosion-proof power drill and blade type mixer. Mix only the amount that can be used within the estimated pot life. For optimum application, air, and surface temperature should be from 50° to 90°F (10° to 32°C) and at least 5°F (3°C) above the dew point. Above 122°F (50°C), sagging may occur.

**Brush or Roller:** Apply product in full even coats. Maintain a wet edge. To ensure adequate film build, two coats are recommended when applying by brush or roller (see the drying times chart for recoat period). A roller nap of 3/8" is recommended or use a pure bristle brush.

**Airless Spray:** Flush airless lines with an appropriate solvent. Equipment must be clean prior to start. Apply the product in even coats and maintain a wet edge. Use parallel passes with 50% overlap to avoid bare areas and pinholes. If required, cross spray at right angles.

Tip Orifice	Atomizing Pressure	Material Hose ID	Manifold Filter
0.013" to 0.015"	2500–3000 PSI	1/4"	60 mesh

## Packaging

## Shipping Weight

Product	1 gallon kit	5 gallon kit	1 gallon	5 gallon
Part A Resin	1 gallon can (short filled)	5 Gallon can (short filled)	11 lbs. (5 kg.)	53 lbs. (24 kg.)
Part B Cure	1 Pint can (short filled)	1 gallon can (short filled)	1.2 lbs. (0.54 kg.)	5.33 lbs. (2.4 kg.)

## Storage

Two years from date of manufacture when maintained in protected area at a temperature of 40° to 100°F (4° to 38°C). Subject to inspection thereafter.

## Safety Precautions

**\*WARNING!** If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to [www.epa.gov/lead](http://www.epa.gov/lead).

Paint products contain chemical ingredients, which are considered hazardous. Prior to use, read container label warnings and the current Safety Data Sheet for important health and safety information. Ensure these instructions are practiced during product application and cure. **Keep out of the reach of children.**

## Safety Data

“Safety Data Sheets” are available from your Diamond Vogel representative or the Diamond Vogel website at [www.diamondvogel.com](http://www.diamondvogel.com). Prior to use of this product, obtain and review the Safety Data Sheet for health and safety information. Read and observe all precautionary notices on container labels. **NOT INTENDED FOR RESIDENTIAL USE.**

## Limited Warranty

The technical data and suggestions for use contained in this document are true and correct to the best of our knowledge at the date of issuance. The statements of this document do not constitute a warranty, expressed, or implied, as to the performance of these products. Since Diamond Vogel does not control the application of its products, or the condition of the surfaces to which they are applied, Diamond Vogel’s liability will under no circumstances exceed replacement of the product. **All technical information is subject to change without notice.**

## Additional Information

Cautions and Warnings information is located on the back panel of each product label. For current information regarding VOC regulations for specific geographical regions, please contact Technical Service at Diamond Vogel Corporate Headquarters, (Contact information is located at the bottom of the page).