RUST-OLEUM HIGH PERFORMANCE INDUSTRIAL COATINGS

HIGH PERFORMANCE
9800 SYSTEM DTM URETHANE MASTIC

DESCRIPTION AND USES

The 9800 System DTM Urethane Mastic is a two component, high solids, high build, direct to metal, aliphatic acrylic polyurethane. This urethane mastic coating is designed to provide corrosion protection of steel in moderate to severe environments. It can be used directly on sound rusted steel with minimum surface preparation. It can also be used on clean steel, galvanized metal, concrete and previously coated surfaces with proper surface preparation.

It is suitable for tanks, towers, equipment, metal buildings, or chemical environments.

This product has been approved per MPI specification #72. Visit paintinfo.com for details[1].

PRODUCTS

FINISHES – GLOSS

1 Gallon	5 Gallons	DESCRIPTION
9815419	-----	Alumi-NON®
9865419	-----	Regal Red
9871419	-----	Dunes Tan
9879419	-----	Black
9882419	-----	Silver Gray
9886419	-----	Navy Gray
9892419	9892383	White
9825419	-----	Safety Blue
9844419	-----	Safety Yellow
204004	-----	Safety Red
-----	252726	ANSI 70 Light Gray

FINISHES – SATIN

1 Gallon	DESCRIPTION
332051	Satin Black
332052	Satin White
332053	Satin Safety Blue
332054	Satin Safety Red
332056	Satin Safety Yellow
332055	Satin Dunes Tan
336366	Satin Silver Gray

FINISHES – FLAT

1 Gallon	5 Gallons	DESCRIPTION
321696	322009	Flat Black

[1] Refer to the MPI website for the most current listing of MPI certified products.

PRODUCTS (cont.)

TINT BASES – GLOSS

1 Gallon	5 Gallons	DESCRIPTION
9805470	-----	Red Base
9806470	-----	Yellow Base
9807470	9807370	Masstone Base
9808405	9808375	Deep Base
9809415	9809377	Light Base

TINT BASES – SATIN

1 Gallon	DESCRIPTION
332057	Satin Masstone Base
332058	Satin Deep Base
332059	Satin Light Base

ACTIVATOR

1 Quart	1 Gallon	DESCRIPTION
9801501	9801419	Activator

All 9800 System standard colors (except 9815 Alumi-Non), tint bases and activators comply with USDA FSIS regulatory sanitation performance standards for food establishment. This coating is impervious to moisture and easily cleaned and sanitized. Agriculture Canada accepted: 9815, 9822, 9825, 9879, 9892, 9833, 9844, 9845, 9882, 9865, 9868, 9871 and 9886.

ENHANCED WEATHERING OPTION

9800 UV* is available as a made-to-order product which has been formulated to optimize color and gloss retention when needed in order to maximize appearance in exterior applications. Contact your Rust-Oleum Sales Representative for ordering details.

PACKAGING

ONE GALLON

Standard premix colors are packaged in a short filled gallon container to allow for the addition of activator. The 9801501 Activator is packaged in a short filled, cone top, quart container. The combined base and activator components will yield one full gallon.

FIVE GALLON

Standard premix colors are packaged in a short filled five gallon pail to allow for the addition of activator. The 9801419 Activator is packaged in a short filled gallon container. The combined base and activator components will yield five full gallons.

TINT BASES

The base component for the tint bases are further short filled to allow for the addition of both the activator and the colorant. The amount of colorant used will vary for the specific color.

The following tint bases are available:

Red Base – The red tint base can accept up to 16 ounces of colorant per gallon. Not available in fives or in Satin.

*Contains extra UV inhibitors.

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PACKAGING (cont.)

TINT BASES (cont.)

Yellow Base – The yellow tint base can accept up to 16 ounces of colorant per gallon. Not available in fives or in Satin.

Masstone Base – The clear tint base can accept up to 16 ounces of colorant per gallon.

Deep Base – The deep tint base contains 0.8 pounds of titanium dioxide per gallon. It can accept up to 12 ounces of colorant per gallon.

Light Base – The white tint base contains 1.8 pounds of titanium dioxide per gallon. It can accept up to 8 ounces of colorant per gallon.

The entire container of activator must be added to the tinted base component, regardless of the amount of colorant used. Colors which don't use the maximum load of colorant will yield less than a full container of activated material.

COMPANION PRODUCTS

RECOMMENDED PRIMERS

9800 System DTM Urethane Mastic is self-priming and can be used without a primer in mild to moderate exposures. The use of a primer is required in severe exposures and on heavily rusted surfaces. Also, aluminum should be primed.

The following primers are recommended for conditions indicated:
- 9100: Severe conditions; (9115 should not be used as a primer)
- 9360 or 9370: Severe conditions; these primers can be topcoated within 30 days, enhanced adhesion over aluminum.
- 5369, 5381: Moderate conditions; enhanced adhesion over aluminum.
- 2068, 2082: Mild to moderate conditions; where a single-coat, fast dry primer is needed.

PRODUCT APPLICATION

SURFACE PREPARATION

ALL SURFACES: (SSPC-SP-1) Remove all dirt, grease, oil, salt and chemical contaminants by washing the surface with Krud Kutter® Original Cleaner Degreaser or other suitable cleaner. Mold and mildew areas must be cleaned with a chlorinated cleaner or bleach solution. Rinse with fresh water and allow to dry.

STEEL: Hand tool (SSPC-SP-2) or power tool (SSPC-SP-3) clean to remove loose rust, scale, and deteriorated previous coatings to obtain a sound rusted surface. For optimum corrosion resistance, abrasive blast to commercial grade NACE3/SSPC-SP-6, with a blast profile of 1-2 mils (25-50µ). All weld spatter should be removed along weld seams, rough welds should be ground smooth, and all sharp edges should be ground to a smooth radius.

PREVIOUSLY COATED: Previously coated surfaces must be sound and in good condition. Smooth, hard, glossy or aged two-component epoxy coatings should be scarified by sanding or sweep blasting to create a surface profile. The 9800 System DTM Urethane Mastic is compatible with most coatings, but a test patch is suggested.

GALVANIZED METAL: (SSPC-SP1) Remove oil, dirt, grease and other chemical deposits with Krud Kutter Original Cleaner Degreaser or other suitable cleaner. Remove loose rust, white rust or deteriorated old coatings by hand or power tool cleaning or brush off blasting. Rinse thoroughly with fresh water and allow to fully dry.

PRODUCT APPLICATION (cont.)

SURFACE PREPARATION (cont.)

CONCRETE OR MASONRY: New concrete or masonry must cure 30 days before coating. Any concrete surface must be protected from moisture transmission from uncoated areas. Remove all loose, unsound concrete. Remove laitance and create a surface profile per NACE 6/SSPC-SP13 Standard by acid etching with Rust-Oleum® Krud Kutter Concrete Clean and Etch Solution or by grinding. Surface sealers and curing agents must be removed by grinding. This product is intended for vertical applications for its primary uses. Limited exposure horizontal applications may apply – see your sales representative for further information.

MIXING

Thoroughly mix the base component to ensure any settled pigment is re-dispersed before combining the components together. Combine at a 5:1 ratio (base to activator) by volume and mix thoroughly for 2-3 minutes. Power mixing is preferred. Do not mix more material than you plan to use with the listed pot life.

NOTE: Tint Bases must be tinted prior to activating.

APPLICATION

Apply only when air and surface temperatures are between 40-100°F (5-38°C) and surface is at least 5°F (3°C) above the dew point. Can be applied by brush, roller or spray. For proper performance, a dry film thickness of 3 to 5 mils (75 to 125µ) per coat is required. Excessive brushing or rolling may reduce film thickness. Apply two coats to an abrasive blast cleaned surface. The 9800 System DTM Urethane Mastic can accommodate wet-on-wet recoat after 2 hours of dry time. However this process should be conducted by experienced painters only. Application must be done by spray, and since a wet film thickness gauge is impractical during the application of the second coat, care must be used to avoid excessive film build. Excessive film thickness or application of the second coat before the recommended dry time (2 hours) can result with micro-wrinkling or pinholes; either of which will lower the gloss of the finish. Wet-on-wet application of the 9800 System Urethane Mastic finish can also be done over a first coat of 9100 System DTM Epoxy Mastic (except 9115) or one of the Rust-Oleum® Epoxy Primers: 9360 or 9370.

EQUIPMENT RECOMMENDATIONS

(Comparable equipment also suitable.)
BRUSH: Use a good quality natural or synthetic bristle brush.
ROLLER: Use a good quality lamb's wool or synthetic fiber recommended.

AIR–ATOMIZED SPRAY

Method	Fluid Tip	Fluid Delivery	Atomized Pressure
Pressure	0.055-0.070	10-16 oz./min.	25-60 psi
Siphon	0.043-0.070	--	25-60 psi
HVLP	0.050-0.070	--	10 psi (at tip)

AIRLESS SPRAY

Fluid Pressure	Fluid Tip	Filter Mesh
1,800-3,000 psi	0.013-0.017	100

Caution: Protect surrounding surfaces from over spray. Over spray can be wet or dry depending on height of work, weather, environmental conditions and application equipment. Wet over spray can adhere to unwanted surfaces. Dry over spray may be removed by wiping or washing. Always clean dry over spray from hot surfaces before fusing occurs as surface temperatures can be higher than the air temperature.

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PRODUCT APPLICATION (cont.)

THINNING

For air-atomized spray thin as necessary with 190 or 333 Thinner up to ½ pint per gallon.

CLEAN-UP

Use 190 Thinner.

PERFORMANCE CHARACTERISTICS

SYSTEM TESTED

9800 System DTM Urethane Mastic.
For chemical and corrosion resistance, see the Rust-Oleum Industrial Brands Catalog (Form #275585).

PENCIL HARDNESS

METHOD: ASTM D3363
RESULT: F-H

CONICAL FLEXIBILITY

METHOD: ASTM D522
RESULT: 32%+

CYCLIC PROHESION
Rating 1-10, 10=best

METHOD: ASTM D5894, 4 cycles, 1,344 hours
RESULT: 10 per ASTM D714 for blistering
RESULT: 10 per ASTM D610 for rusting

IMPACT RESISTANCE (direct/reverse)

METHOD: ASTM D2794
RESULT: 160/160 in.–lbs.

TABER ABRASION

METHOD: ASTM D4060, CS-17 wheels, 1,000 gram load, 1000 cycles
RESULT: 74 mg loss

GLOSS (60°)

METHOD: ASTM D523
RESULT: 83% (color–white)

ACCELERATED WEATHERING (% gloss retention)

METHOD: ASTM D4587, QUV Type A bulb, 1,551 hours
RESULT: 95% gloss retention (color–white)

MOISTURE PERMEABILITY

METHOD: ASTM D1653
CONDITIONS: 73°F 50% RH 3.1 mils WFT
RESULTS: WVT-2.73 g/m^2/24 hours
WVP-0.26 g/m^2/24 hours/mm Hg

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PHYSICAL PROPERTIES

		FINISH COLORS	TINT BASES
Resin Type		Aliphatic isocyanate converted acrylic polyurethane (ASTM Type V)	Aliphatic isocyanate converted acrylic polyurethane (ASTM Type V)
Solvents		Methyl Amyl Ketone, Butyl Acetate, Esters	Methyl Amyl Ketone, Butyl Acetate, Esters
Weight[2]	**Per Gallon**	9.2-11.4 lbs.	9.3-10.8 lbs.
	Per Liter	1.1-1.3 kg	1.1-1.3 kg
Solids[2]	**By Weight**	70-74%	70-73%
	By Volume	58-62%	60-62%
Volatile Organic Compounds[2]		<340 g/l (2.8 lbs./gal.)	<340 g/l (2.8 lbs./gal.)
Recommended Dry Film Thickness (DFT) Per Coat		3-5 mils (75-125µ)	3-5 mils (75-125µ)
Wet Film to Achieve DFT		5-8 mils (125-200µ)	5-8 mils (125-200µ)
Practical Coverage at Recommended DFT (assumes 15% material loss)		160-280 sq. ft./gal. (3.9-6.9 m^2/l)	165-280 sq. ft./gal. (4.0-6.9 m^2/l)
Mixing Ratio		5:1 base to activator by volume	5:1 base to activator by volume
Induction Period[3]		None required	None required
Pot Life @ 70°F & 50% Relative Humidity		2-3 hours	2-3 hours
Dry Times at 70-80°F (21-27°C) and 50% Relative Humidity	**Tack-free**	4-6 hours	3-6 hours
	Handle	6-9 hours	6-9 hours
	Recoat	16-72 hours	
Dry Heat Resistance		300°F (149°C)	
Shelf Life		2 years for base, 1 year for activator; open activator must be used within one week	
Safety Information		For additional information, see SDS	

Calculated values are shown and may vary slightly from the actual manufactured material.

[2] Activated material.

[3] For brush and roller applications, a 30 minute set time is recommended.