

URETHANE**RUST-OLEUM®****TECHNICAL DATA****RO-71****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.

PRODUCTS**FINISHES**

1-Gallon	5-Gallon	Description
9815419	—	Alumi-NON®
9865419	—	Regal Red
9871419*	9871383	Dunes Tan
9879419	—	Black
9882419	252716	Silver Gray
9886419	—	Navy Gray
9892419	9892383	White
9825419	—	Safety Blue
9844419	---	Safety Yellow
204004	297083	Safety Red
—	M98-8404383*	ANSI 61 Light Gray
—	252726	ANSI 70 Light Gray
321696	322009	Flat Black
9801501	9801419	Activator

TINT BASES

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

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.

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

ALTERNATE PRODUCT

9800-2X is a special Made-to-Order product which has been formulated to optimize color and gloss retention when needed to maximize appearance in exterior applications. Contact your Rust-Oleum Sales Representative for ordering details.

* Made-to-Order only. Contact Rust-Oleum Customer Service for details.

** Refer to the MPI website for the most current listing of MPI certified products.

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.

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

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.



9800 SYSTEM DTM URETHANE MASTIC

PRODUCT APPLICATION

SURFACE PREPARATION

ALL SURFACES: Remove all dirt, grease, oil, salt and chemical contaminants by washing the surface with Krud Kutter L: Hand tool (SSPC-SP-2) or power tool (SSPC-SP-3) clean to remove dirt. 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: loose rust, scale, and deteriorated previous coatings to obtain a sound rusted surface. For optimum corrosion resistance, abrasive blast to commercial grade 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: Remove oil, dirt, grease and other chemical deposits with Pure Strength® Cleaner/Degreaser item #3599402 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.

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 by acid etching with Rust-Oleum 108402 Cleaning and Etch Solution or by grinding. Surface sealers and curing agents must be removed by grinding.

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® Industrial Primers: 9360 or 9370.

EQUIPMENT RECOMMENDATIONS

BRUSH: Good quality natural or synthetic bristle recommended.

ROLLER: Good quality lamb's wool or synthetic fiber recommended.

PRODUCT APPLICATION (cont.)

AIR-ATOMIZED SPRAY:

Method	Fluid Tip	Fluid Delivery	Atomizing Pressure
Pressure	0.050-0.070	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	0.013-0.017	100

THINNING

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

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.

CLEAN-UP - 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/m²/24 hours

WVP-0.26 g/m²/24 hours/mm Hg



TECHNICAL DATA

9800 SYSTEM DTM URETHANE MASTIC

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*	Per Gallon	9.2-11.2 lbs.	9.4-10.8 lbs.
	Per Liter	1.1-1.3 kg	1.1-1.3 kg
Solids*	By Weight	70-74%	70-73%
	By Volume	58-62%	60%
Volatile Organic Compounds*		<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)
Theoretical Coverage at 1 mil DFT (25μ)		930-990 sq.ft./gal. (22.9-24.4 m ² /l)	960 sq.ft./gal. (23.6 m ² /l)
Practical Coverage at Recommended DFT (assumes 15% material loss)		160-280 sq.ft./gal. (3.9-6.9 m ² /l)	165-275 sq.ft./gal. (4.0-6.8 m ² /l)
Mixing Ratio		5:1 base to activator by volume	5:1 base to activator by volume
Induction Period†		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	16-24 hours	9-12 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.

*Activated material.

†For brush and roller applications, a 30 minute set time is recommended.

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