RUST-OLEUM®

HIGH PERFORMANCE®

V9100 SYSTEM
LOW VOC DTM EPOXY MASTIC

DESCRIPTION AND USES

A low VOC, two component, high solids epoxy coating.

This low VOC, high solids epoxy mastic coating is suitable for use in moderate to severe environments. It is specifically designed for application directly on sound rusted steel with minimum surface preparation. It can also be used on clean steel, galvanized metal, concrete (including concrete floors), previously coated and slightly damp surfaces. The 9100 System can be used indoors or out. While exposure to sunlight and certain interior lighting conditions causes fading and chalking of all epoxy type coatings, these changes are cosmetic in nature only and film integrity and performance will not be adversely affected. All standard colors, tint bases and activators are USDA acceptable under FSIS Directive 11000.4 (Rev.1), November 24,1995. Color subject to approval of USDA Inspector.

Epoxy coatings will yellow with age. This is most noticeable with interior applications of white or light colors which are not subjected to bleaching from sunlight. Note: 214430 Low VOC Immersion Activator and 214432 Low VOC Fast-Cure Activator produce a semi-gloss finish. Also, using the 214432 Low VOC Fast-Cure Activator may result with a slight colorshift when compared with products using the 205015 Low VOC Standard Activator.

PRODUCTS

ACTIVATOR

1-Gallon	5-Gallon	Description
205015	206232	Low VOC Standard Activator
214430*	—	Low VOC Immersion Activator
9103402	—	Low VOC Low Temp. Activator
214432*	A910008300	Low VOC Fast-Cure Activator

*Not to be used with Tint Bases

PRODUCTS (cont.)

COATINGS

1-Gallon	5-Gallon	Description
9115402	—	Aluminum
9122402	—	Marlin Blue
9125402	—	Safety Blue
9133402	—	Safety Green
9144402	—	Safety Yellow
9145402	—	Equipment Yellow
9165402	—	Regal Red
9168402	—	Tile Red
9171402	—	Dunes Tan
9179402	—	Black
9182402	—	Silver Gray
9186402	—	Navy Gray
9192402	—	White

TINT BASES

1-Gallon	5-Gallon	Description
9105405	—	Red Tint Base
9106405	—	Yellow Tint Base
9107405	9107375	Masstone Tint Base
9108421	9108381	Deep Tint Base
9109408	9109388	Light Tint Base

The tint bases use the Rust-Oleum Solvent Based Colorants

PRODUCT APPLICATION

SURFACE PREPARATION

ALL SURFACES: Remove all dirt, grease, oil, salt or other contaminants by washing the surface with 3599 Industrial Pure Strength® Cleaner/Degreaser, detergent or other suitable cleaner. Rinse thouroughly with fresh water and allow to fully dry. Thoroughly cured, hard or glossy previous coatings which are very smooth may require scuff sanding to maximize adhesion.

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 SSPC-SP-6, with a blast profile of 1-2 mils (25-50µ).

Form: 206348
Rev.: 071811

PRODUCT APPLICATION (cont.)

STEEL: (IMMERSION) Abrasive blast clean to a minimum SSPC-SP-10 Near White Grade (NACE 2) and achieve a surface profile of 1.5-3 mils. All weld spatter must be removed along weld seams, rough welds should be ground smooth, and all sharp edges should be ground to a smooth radius.

GALVANIZED METAL: Remove oil, dirt, grease and other chemical deposits with 3599 Industrial Pure Strength® Cleaner/Degreaser or by solvent, detergent or steam cleaning. 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: Scrape and wire brush or power tool clean to remove any loose or unsound concrete, masonry, or deteriorated coating. Acid etch smooth concrete with 108402 Cleaning and Etching Solution. New concrete or masonry must cure 30 days before coating. Any concrete surface must be protected from moisture transmission from uncoated areas.

NOTE: Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause adverse effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH-approved) and proper containment and cleanup. For additional information,contact the U.S.EPA/Lead Information Hotline at 1-800-424-LEAD or log onto www.epa.gov/lead.

APPLICATION

Airless spray is the preferred method of application. However, brush, roller, or air-atomized spray may also be used. Refer to table for thinning recommendations. For proper performance, a dry film thickness of 5-8 mils per coat is required. Excessive brushing or rolling may reduce film thickness. Apply a second coat if necessary to achieve the recommended film thickness.

Use 205015 Standard Activator or 214432 Fast-Cure Activator at air and surface temperatures between 50-100°F (10-38°C) and when the surface temperature is at least 5°F (3°C) above the dew point.

Low curing temperatures and/or condensation on the film while curing can affect appearance in the form of an amine blush. This can generally be removed with soap and water, however, in a case of extreme blushing, the coating performance may be slightly affected.

PRODUCT APPLICATION (cont.)

When application temperatures are between 40-60°F (5-15°C) and when the surface temperature is at least 5°F (3°C) above the dewpoint, use Industrial DTM Epoxy Mastic with the 9103402 Low Temperature Activator. Do not apply the material if the temperature is expected to fall below 40°F in the first 24 hours of cure. At 40°F, full cure will be achieved in 7 days.

For water immersion service, use the 214430 Low VOC Immersion Activator. Do not use this activator with tint bases. This system maybe used for both salt and fresh water; do not use for the inside of potable water tanks. Apply at air and surface temperatures between 60-100°F (15-38°C), when the surface temperature is at least 5°F (3°C) above the dew point, and when relative humidity is below 85%. Apply two coats alternating color between coats to ensure complete hide. Allow 7 days cure after application of the second coat before immersion.

Pools

When used with 214430 Low VOC Immersion Activator, the Industrial DTM Epoxy Mastic premix bases can be used as a pool coating over existing epoxy pool coatings, new bare concrete, plaster, gunite, and fiberglass. The pool must be completely empty and dry before coating. After pool is emptied, this typically requires 7-10 days depending on temperature and humidity. To test the dryness of concrete, gunite or plaster pool surfaces, securely tape a 2 ft. by 2 ft. piece of clear plastic onto a horizontal and vertical surface at the deep end of the pool. Check after 24 hours. If water condensation is visible under the plastic, this is an indication that the surface is not completely dry, and NOT suitable for coating. Allow additional dry time and retest. Follow surface preparation, mixing and application instructions. Avoid painting in midday sun. Application is recommended early in the day or late in the afternoon when at least 2 hours of sunlight remain after completion of the job. Allow minimum of 5-7 sunny days cure before filling pool. Early contact with water can cause premature fading, chalking and blistering. Super chlorinated water can cause a bleached out look. Sunlight and UV will cause chalking and fading. **Do not** use over: 1) chlorinated rubber, 2) synthetic rubber, 3) vinyl, 4) acrylic.

V9100 SYSTEM LOW VOC DTM EPOXY MASTIC

PRODUCT APPLICATION (cont.)

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 (3/8-1/2"nap).

AIR-ATOMIZED SPRAY:

Method	Fluid Tip	Fluid Delivery	Atom. Pressure
Pressure	0.055-0.070	10-16 oz./min.	25-60 psi
Siphon	0.055-0.070	—	25-60 psi
HVLP	0.043-0.070	8-10 oz./min.	10 psi (at tip)

AIRLESS SPRAY:

Pump Ratio	Fluid Press.	Fluid Tip	Filter Mesh
30:1	1,800-3,000 psi	0.013-0.017	100

THINNING

Thinning is normally not required, except for air-atomized spray. For air-atomized spray application, thin only up to 10% by volume with 333402 Thinner after the components have been mixed.

MIXING

Both the base and activator components are highly pigmented. Mix each component thoroughly to ensure any settled pigment is re-dispersed before combining the components together. Combine at a 1:1 ratio by volume in a container large enough to hold the total volume. Mix thoroughly for 2-3 minutes. Power mixing is preferred. Do not mix more material than you plan to use within the listed pot life.

CLEAN-UP

Use 333 Thinner.

PERFORMANCE CHARACTERISTICS

(Results using Low VOC Standard Activator, 205015)

PENCIL HARDNESS

METHOD: ASTM D3363

RESULT: 5H

CONICAL FLEXIBILITY

METHOD: ASTM D522

RESULT: >33%

CYCLIC PROHESION

Rating 1-10, 10=best

METHOD: ASTM D5894, 3000 hours

RESULT: 10 ASTM D714 for blistering

RESULT: 10 ASTM D1654 for corrosion

IMPACT RESISTANCE (direct)

METHOD: ASTM D2794

RESULT: 132 in.–lbs.

TABER ABRASION

METHOD: ASTM D4060 CS-17 wheel, 500 g. load, 1000 cycles

RESULT: 21 mg loss

GLOSS

METHOD: ASTM D4587

RESULT: 80%

For chemical and corrosion resistance, see the Rust-Oleum Industrial Brands Catalog Form # 206275.

RUST-OLEUM® HIGH PERFORMANCE®

TECHNICAL DATA

V9100 SYSTEM LOW VOC DTM EPOXY MASTIC

PHYSICAL PROPERTIES

			#205015 Standard Activator	#214430 Immersion Activator		#9103402 Low Temp. Activator	#214432 Fast-Cure Activator	
Resin Type			Aliphatic Amine converted Epoxy	Polyamide converted Epoxy		Aliphatic Amine converted Epoxy	Polyamide/modified Amine converted Epoxy	
Inhibitive Pigment			Calcium Borosilicate	Calcium Borosilicate		Calcium Borosilicate	Calcium Borosilicate	
Solvents			Aromatic hydrocarbons, ketones and alcohols	Aromatic hydrocarbons, ketones and alcohols		Xylene, Methyl Isobutyl Ketone, 1-Methoxy-2-propranol	Aromatic hydrocarbons, ketones and alcohols	
Weight*	**Per Gallon**		11.4-12.4 lbs.	11.4-12.6 lbs.		9.3-10.4 lbs.	12.1-13.2 lbs.	
	Per Liter		1.4-1.5 kg	1.4-1.5 kg		1.1-1.2 kg	1.4-1.5 kg	
Solids*	**By Weight**		86.4-88.4%	79.3-81.8%		78-81%	81.3-83.5%	
	By Volume		77.8-80.4%	67.0-68.5%		72-75%	68.3-69.8%	
Volatile Organic Compounds*			<250 g/l (2.08 lbs./gal.)	<250 g/l (2.08 lbs./gal.)		<250 g/l (2.08 lbs./gal.)	<250 g/l (2.08 lbs./gal.)	
Mixing Ratio			1:1 Act.:Base (by vol.)	1:1 Act.:Base (by vol.)		1:1 Act.:Base (by vol.)	1:1 Act.:Base (by vol.)	
Recommended Dry Film Thickness (DFT) Per Coat			5-8 mils (125-200µ)	5-8 mils (125-200µ)		5-8 mils (125-200µ)	5-8 mils (125-200µ)	
Wet Film to Achieve DFT (unthinned material)			6.5-10.0 mils (162.5-250.0µ)	7.5-12.0mils (187.5-300.0µ)		7-11 mils (175-275µ)	7.5-12.0 mils (187.5-300.0µ)	
Theoretical Coverage at 1 mil DFT (25µ)			1250-1290 sq. ft./gal. (30.7-31.7 m^2/l)	1075-1100 sq. ft./gal. (26.4-27.0 m^2/l)		1155-1200 sq. ft./gal. (28.4-29.5 m^2/l)	1095-1120 sq. ft./gal. (26.9-27.6 m^2/l)	
Practical Coverage at Recommended DFT (assumes 15% material loss)			130-220 sq. ft./gal. (3.2-5.4 m^2/l)	115-190 sq. ft./gal. (2.8-4.6 m^2/l)		125-200 sq. ft./gal. (3.1-5.0 m^2/l)	115-190 sq. ft./gal. (2.8-4.6 m^2/l)	
Induction Period			None required	None required		None required	None required	
Pot Life**	**2 gallons**		2.5-3 hours at 75°F (24°C)	2-4 hours at 70°F (21°C)	3-5 hours at 60°F (15°C)	2-4 hours at 60°F (15°C)	2-4 hours at 70°F (15°C)	1-2 hours at 90°F (32°C)
	10 gallons		2-3 hours at 75°F (24°C)	2 hours at 75°F (24°C)	3 hours at 60°F (15°C)	2 hours at 60°F (15°C)	2 hours at 70°F (21°C)	<1 hour at 90°F (32°C)
Dry Times at 50% Relative Humdity	**Tack-free**		6-8 hours at 70°F (21°C)	6-8 hours at 70°F (21°C)	8 hours at 50°F (10°C)	16-20 hours at 40°F (5°C)	4 hours at 70°F (21°C)	
	Handle		6-12 hours at 70°F (21°C)	8-14 hours at 70°F (21°C)	10 hours at 50°F (10°C)	22-26 hours at 40°F (5°C)	5 hours at 70°F (21°C)	
	Recoat		16 hours to 30 days at 70°F (21°C)	16-72 hours at 70°F (21°C)	24-72 hours at 50°F (10°C)	24-72 hours at 40°F (5°C)	4 hours at 70°F (21°C)	
Dry Heat Resistance			300°F (149°C), Color may shift above 150°F (66°C)	300°F (149°C), Color may shift above 150°F (66°C)		300°F (149°C), Color may shift above 150°F (66°C)	300°F (149°C), Color may shift above 150°F (66°C)	
Shelf Life			Base Components: 3 years*; Activators: 2 years*. *Unopened containers. Some settling may occur requiring mechanical mixing to redisperse pigment.					
Safety Information	**Flash Point**	**Base**	80°F (27°C)	80°F (27°C)		80°F (27°C)	80°F (27°C)	
		Act.	71°F (21°C)	15°F (-9.5°C)		110°F (43°C)	15°F (-9.5°C)	
	Contains		No lead added	No lead added		No lead added	No lead added	
	Warning!		**HARMFUL IF INHALED. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. FOR INDUSTRIAL OR COMMERCIAL USE ONLY. SEE THE PRODUCT MATERIAL SAFETY DATA SHEET (MSDS) AND LABEL WARNINGS FOR ADDITIONAL SAFETY INFORMANTION.**					

*Activated material. **Pot life is affected by air temperature, amount of material activated and quantity of thinner used. Avoid activating large quantities at temperatures above 80°F (27°C). At temperatures above 90°F (32°C), the pot life of unthinned material in 5 gallon pails may be very short (less than one hour). Final gloss may be slightly higher for coating applied near the end of the potlife.

The technical data and suggestions for use contained herein are correct to the best of our knowledge, and offered in good faith. The statements of this literature do not constitute a warranty, express, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.

RUST-OLEUM® INDUSTRIAL BRANDS

Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, Illinois 60061
An RPM Company

Phone: 877•385•8155
www.rustoleum.com/industrial

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