RUST-OLEUM® HIGH PERFORMANCE®

5300 SYSTEM WATER-BASED EPOXY

DESCRIPTION AND USES

A two-component, polyamine-cured water-based epoxy coating. Designed for use in moderate to severe industrial environments for protection of steel structures. It can also be used on non-ferrous and masonry surfaces. Provides excellent chemical, abrasion and corrosion resistance. Primers are formulated for use on clean, abrasive blasted, slightly rusted, or previously painted steel surfaces.

PRODUCTS

FINISHES

1-Gallon	5-Gallon	Description
5323408	—	Marlin Blue
5344408	—	Safety Yellow
5368408	—	Tile Red
5371408	—	Dunes Tan
5379408	—	Black
5382408	—	Silver Gray
5392408	5392388*	White
5301604	—	Activator

TINT BASES

1-Gallon	5-Gallon	Description
5308421	—	Deep Base
5309404	—	Light Base

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

PACKAGING

The 5369 Red and 5381 Gray Primers are packaged in short-filled gallon containers (96 ounces) that must be mixed with 5303 Activator, which is packaged in a 1-quart container (32 ounces). When combined, the final yield is one full gallon.

The 5300 System finishes and tint bases are packaged in short-filled gallon containers (116 ounces) that must be mixed with the 5301 Activator, which is packaged in a 1-pint container (16 ounces). When combined, the final yield is one full gallon.

COMPANION PRODUCTS

RECOMMENDED PRIMERS

5369405	Red Primer
5381405	Gray Primer
5303502	Primer Activator

COMPATIBLE TOPCOATS

9700 System 250 VOC Acrylic Urethane

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 Pure Strength® Cleaner/Degreaser item #3599402, commercial detergent or other suitable cleaner. Mold and mildew areas must be cleaned with a chlorinated cleaner or bleach solution. Rinse thoroughly with fresh water and allow to fully dry. All surfaces must be dry at time of application.

STEEL, GALVANIZED AND ALUMINUM: Hand tool (SSPC-SP-2) or power tool (SSPC-SP-3) clean to remove loose rust, mill scale, and deteriorated previous coatings. A brush-off abrasive blast (SSPC-SP-7) may be used as an alternative to scraping and wire brushing. Wire brushing or a brush-off blast is especially effective in removing white rust (oxidation) from galvanized steel. Abrasive blasting to a minimum Commercial Grade (SSPC-SP-6, NACE 3) with a 1-2 mil (25-50µ) surface profile is recommended for optimal performance. Abrasive blast cleaned steel requires two coats.

PREVIOUSLY COATED: Previously coated surfaces must be sound and in good condition. Smooth, hard, or glossy finishes should be scarified by sanding to create a surface profile. The High Performance Industrial Water Based Epoxy Finish is compatible with most coatings, but a test patch is suggested. WARNING! If you scrape, sand or remove old paint from any surface, you may release lead paint 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. Carefully clean up with a wet mop or HEPA vacuum. For additional information contact the U.S.EPA/Lead Information Hotline at 1-800-424-LEAD or log onto www.epa.gov/lead.

Form: 2027990
Rev.: 111411

5300 SYSTEM WATER-BASED EPOXY

PRODUCT APPLICATION (cont.)

CONCRETE AND MASONRY: Hand or power tool clean to remove all loose or unsound concrete, masonry, or previous coating. Very dense, non-porous concrete should be acid etched or abrasive blasted to remove the laitance layer and create a surface profile. Allow new concrete to cure for 30 days before coating.

APPLICATION

Apply only when the air and surface temperatures are between 60-100°F (15-38°C) and the surface temperature is at least 5°F (3°C) above the dew point. The relative humidity should not be greater than 85%. Extremely high or low relative humidity can affect dry times and the final gloss of the coating. Mix thoroughly before applying. On bare concrete, thin first coat 25% with fresh clean water to maximize penetration into the concrete. Thin after the induction time has elapsed.

EQUIPMENT RECOMMENDATIONS

BRUSH: Use a good quality synthetic bristle brush.

ROLLER: Use a good quality synthetic cover.

AIR-ATOMIZED SPRAY:

Method	Fluid Tip	Fluid Delivery	Atom. Pressure
Pressure	0.050-0.070	16 oz./min.	40-60 psi
Siphon	0.050-0.070	—	40-60 psi
HVLP	0.050-0.070	8 oz./min. 10 psi at tip	

AIRLESS SPRAY:

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

THINNING

BRUSH/ROLLER: Normally not required. Use 5-10% fresh water if needed (approximately ½ pint per gallon).

AIR-ATOMIZED SPRAY: Fresh water. Use up to 10% as needed (approximately 1 pint per gallon).

AIRLESS SPRAY: Normally not required.

MIXING

The 5300 System base components must be premixed before adding the 5301 Activator. For the 5300 System primers, both the base component and 5303 Activator must be premixed before combining the materials. Combine the base component and activator at the required mixing ratio by volume, mix for 2-3 minutes, then allow the material to set for the required 30 minute induction time.

CLEAN-UP

Soap and water. Once the coating begins to cure it will be necessary to use 160 Thinner or Methyl Ethyl Ketone (MEK).

PERFORMANCE CHARACTERISTICS

System Tested

Topcoat: Industrial Water Based Epoxy

PENCIL HARDNESS

METHOD: ASTM D3363

RESULT: F (30 days)

CYCLIC PROHESION

Rating 1-10, 10=best

METHOD: ASTM D5894, 2 cycles, 672 hours

RESULT: 10 per ASTM D714 for blistering

RESULT: 9 per ASTM D1654 for corrosion

RESULT: 10 per ASTM D610 for rusting

IMPACT RESISTANCE (direct)

METHOD: ASTM D2794

RESULT: 100 in.–lbs.

TABER ABRASION

METHOD: ASTM D4060, CS-17 wheels, 1,000 gram load, 1000 cycles

RESULT: 118 mg. loss

GLOSS (60°)

METHOD: ASTM D523

RESULT: 80-95%

For chemical and corrosion resistance, see page 4 of the Rust-Oleum Industrial Brands Catalog (Form #206275).

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PHYSICAL PROPERTIES

		PRIMERS	FINISH COLORS	TINT BASES
Resin Type		Polyamine epoxy	Polyamine epoxy	Polyamine epoxy
Pigment Type		Talc, barium sulfate, red iron oxide, or titanium dioxide	Varies	Varies
Solvents		Water, propoxyethanol, aromatic hydrocarbons	Water, propoxyethanol, aromatic hydrocarbons	Water, propoxyethanol, aromatic hydrocarbons
Weight*	**Per Gallon**	11 lbs.	10-11 lbs.	9.5-10.5 lbs.
	Per Liter	1.3 kg	1.2-1.3 kg	1.1-1.3 kg
Solids*	**By Weight**	53%	51%	45-52%
	By Volume	36%	38%	36-40%
Volatile Organic Compounds*		<250 g/l (2.08 lbs./gal.)	<250 g/l (2.08 lbs./gal.)	<250 g/l (2.08 lbs./gal.)
Recommended Dry Film Thickness (DFT) Per Coat		1.5-2.5 mils (37.5-62.5µ)	1.5-2.5 mils (37.5-62.5µ)	1.5-2.5 mils (37.5-62.5µ)
Wet Film to Achieve DFT		4.0-6.5 mils (100-162.5µ)	4.0-6.5 mils (100-162.5µ)	4.0-6.5 mils (100-162.5µ)
Theoretical Coverage at 1 mil DFT (25µ)		600 sq. ft./gal. (14.8 m^2/l)	600 sq. ft./gal. (14.8 m^2/l)	575-640 sq. ft./gal. (14.1-15.7 m^2/l)
Practical Coverage at Recommended DFT (assumes 15% material loss)		200-350 sq. ft./gal. (4.9-8.6 m^2/l)	200-350 sq. ft./gal. (4.9-8.6 m^2/l)	200-350 sq. ft./gal. (4.9-8.6 m^2/l)
Mixing Ratio		3:1 base to activator (by volume)	7:1 base to activator (by volume)	7:1 base to activator (by volume)
Induction Period		30 minutes	30 minutes	30 minutes
Pot Life @ 77°F & 50% RH		8 hours	6-8 hours	3-5 hours
Dry Times at 70-80°F (21-27°C) and 50% rel. hum.	**Tack-free**	½-1 hours	½-1 hours	1-2 hours
	Handle	2-5 hours	2-5 hours	3-6 hours
	Recoat	1-2 hours	1-2 hours	1-2 hours
Force Cure		20 minutes at 225°F (dry to handle after cooling)	20 minutes at 225°F (dry to handle after cooling)	20 minutes at 225°F (dry to handle after cooling)
Dry Heat Resistance		300°F (149°C)	300°F (149°C)	300°F (149°C)
Shelf Life		5 years; 2 weeks for tinted products (after colorant is added). Tint bases may shift slightly in color over time, affecting touch-up appearance; also bases must be used within two weeks after tinting. The tint bases use the 2030 colorants. Because a masstone base is not available, not all tint colors are available. Refer to the Tint System Color Card and Formula Book for details.		
Safety Information	**Contains**	Lead-free	Lead-free	Lead-free
	Warning!	**COMBUSTIBLE. HARMFUL IF INHALED. MAY AFFECT BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. CAUSES NOSE, THROAT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. SEE THE PRODUCT MATERIAL SAFETY DATA SHEET (MSDS) AND LABEL WARNINGS FOR ADDITIONAL SAFETY INFORMATION.**		

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

RUST-OLEUM®
INDUSTRIAL BRANDS

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Form: 2027990
Rev.: 111411