RUST-OLEUM®

STEEL-TECH™

HIGH PERFORMANCE EPOXY COATING

DESCRIPTION AND USES

Steel-Tech™ is a high performance family of products made with stainless steel flake for superior protection.

Steel-Tech Epoxy is a direct to metal (DTM) two-component epoxy system designed for steel, sound rusted steel, concrete, and more. It provides superior protection from corrosion, chemicals, and abrasion. Steel-Tech Epoxy can be used with all 9100 and V9100 System Activators.

Steel-Tech Epoxy can be used indoors or out. While exposure to sunlight and certain interior lighting conditions can cause fading with epoxy type coatings, these changes are cosmetic in nature only and film integrity and performance will not be adversely affected.

Steel-Tech is formulated with stainless steel flake and some slight color variation is possible between batches.

Steel-Tech complies with USDS FSIS regulatory sanitation performance standards for food establishment facilities. This coating is impervious to moisture and easily cleaned and sanitized.

PRODUCTS

BASE

266698	Stainless Steel Epoxy – 1-gallon

ACTIVATORS

9101402	Standard Activator
9102402	Immersion Activator
9103402	Low Temperature Activator
9104402	Fast Cure Activator
205015	Low VOC Standard Activator
214430	Low VOC Immersion Activator
214432	Low VOC Fast Cure Activator

APPEARANCE

Metallic Gray

PRODUCT APPLICATION

SURFACE PREPARATION

ALL SURFACES: Remove all dirt, grease, oil, salt and chemical contaminants by washing the surface with 3599 Pure Strength® Cleaner/Degreaser or other suitable cleaner. Rinse with water and allow to thoroughly 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 a commercial grade SSPC-SP-6, with a blast profile of 1-2 mils (25-50µ).

PREVIOUSLY COATED: Previously coated surfaces must be sound and in good condition. Smooth, hard, or glossy finishes should be scarified by sanding or sweep blasting to create a surface profile. The Steel-Tech System finishes are compatible with most coatings, but a test patch is suggested.

GALVANIZED METAL: Remove all 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 for 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 either acid etching with Rust-Oleum® 108402 Cleaning and Etch Solution or by grinding. Surface sealers and curing agents must be removed by grinding.

APPLICATION

Airless spray is the preferred method of application. However, brush, roller, or air-atomized spray may also be used. For proper performance, a dry film thickness of 5-8 mils (7-11 mils WFT) 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 Steel-Tech Epoxy with 9101402 Standard Activator or 9104402 Fast Cure Activator when air and surface temperatures are between 50-100°F (10-38°C) and when the surface temperature is at least 5°F (3°C) above the dew point. In areas where VOC levels are <250 g/l, use 205015 Low VOC Standard Activator or 214432 Low VOC Fast Cure Activator. 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 performance of the coating may be slightly affected.

When application temperatures are between 40-60°F (5-15°C) and when the surface temperature is at least 5(3°C) above the dew point, use Steel-Tech Epoxy with the 9103402 Low Temperature Activator. In areas where VOC levels are <250 g/l, use 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.

RUST-OLEUM HIGH PERFORMANCE

TECHNICAL DATA

STEEL-TECH HIGH PERFORMANCE EPOXY COATING

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 (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:

Fluid Pressure	Fluid Tip	Filter Mesh
1800-3000 psi	0.013-0.017	100

MIXING

For Steel-Tech Epoxy - 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.

THINNING

Thinning is normally not required, except for air-atomized spray. For air-atomized spray application, thin only up to 10% by volume with 160402 Thinner, after the components have been mixed. If the coating is going to be used in immersion service, 9102 or 9104 Activator, then use up to 10% 165402 Thinner for air-atomized spray and up to 5% of 165402 Thinner for airless spray.

NOTE: Addition of more than 10% of 160402 or 165402 Thinner will cause VOC to exceed 340 g/l. In this case, 333402 Thinner (exempt) can be used.

CLEAN-UP

For Steel-Tech Epoxy - When finished, wash tools and equipment with xylene or acetone. Clean up drips or spatters Immediately with xylene or acetone as dried paint is very difficult to remove. Properly dispose of all soiled rags.

PERFORMANCE CHARACTERISTICS

System Tested

Topcoat: DTM Epoxy Mastic with 9101 Activator

PENCIL HARDNESS

METHOD: ASTM D3363

RESULT: B (7 days), 4H (30 days)

CONICAL FLEXIBILITY

METHOD: ASTM D522

RESULT: >32%

CYCLIC PROHESION

Rating 1-10, 10=best

METHOD: ASTM D5894, 2300 hours

RESULT: 10 per ASTM D714 for blistering

RESULT: 10 per ASTM D1654 for corrosion

IMPACT RESISTANCE (direct)

METHOD: ASTM D2794

RESULT: 160 in.–lbs.

TABER ABRASION

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

RESULT: 125 mg loss

GLOSS

METHOD: ASTM D4587

RESULT: 80%

RUST-OLEUM HIGH PERFORMANCE

TECHNICAL DATA

STEEL-TECH HIGH PERFORMANCE EPOXY COATING

PHYSICAL PROPERTIES

Physical Properties		Steel-Tech™ Epoxy System	
Resin Type		Aliphatic Amine converted Epoxy	
Pigment Type		Stainless Steel, Calcium Borosilicate	
Solvents		Xylene, Methyl Isobutyl Ketone, 1-Methoxy-2-propanol	
Weight per Gallon*		12.1-12.4 lbs.	
Weight per Liter*		1.4-1.5 kg	
Solids by Weight*		82.5-84.7%	
Solids by Volume*		69.1-72.1%	
Volatile Organic Compounds*		Standard Activators <340 g/l (2.84 lbs./gal.) Low VOC Activators <250 g/l (2.08 lbs./gal.)	
Mixing Ratio		1:1 Base to Activator (by volume)	
Recommended Dry Film Thickness (DFT) per Coat		5.0-8.0 mils (125-200µ)	
Wet Film to Achieve DFT (Unthinned material)		7.0-11.5 mils (175-287.5µ)	
Theoretical Coverage at 1 mil DFT (25µ)		1108-1156 sq.ft./gal. (27.2-28.4 m^2/l)	
Practical Coverage at Recommended DFT (assume 15% material loss)		125-225 sq.ft./gal. (3.1-5.5 m^2/l)	
Induction Period		None required	
Pot Life @70-80ºF (21-27ºC) and 50% Relative Humidity	2 gallons	2-4 hours at 70°F (21°C)	1-2 hours at 90°F (32°C)
	10 gallons	2 hours at 70°F (21°C)	<1 hour at 90°F (32°C)
Dry Times at 70-80°F (21-27ºC) and 50% Relative Humidity			
Tack Free		6-8 hours at 70°F (21°C)	12-24 hours at 50°F (10°C)
Handle		6-12 hours at 70°F (21°C)	48-72 hours at 50°F (10°C)
Recoat		16 hours to 30 days at 70°F (21°C)	72 hours to days at 50°F (10°C)
Shelf Life		5 years	
Dry Heat Resistance		300°F (149°C) Color may shift above 150°F (66°C)	
Safety Information	Warning	**FLAMMABLE LIQUID AND VAPOR. IF INHALED, CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRATION. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM , CAUSING DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE ALLERGIC SKIN REACTION. FOR INDUSTRIAL OR COMMERCIAL USE ONLY. REFER TO MATERIAL SAFETY DATA SHEET (MSDS) FOR ADDITIONAL INFORMATION.**	

* Activated material

RUST-OLEUM INDUSTRIAL BRANDS

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