Corlar® 2.1 ST™
Satin High Solids Epoxy Mastic

GENERAL

DESCRIPTION
A satin gloss, high build epoxy mastic, two-package, VOC conforming product (2.1 lbs/gal) based on Axalta amido amine modified polyamide epoxy technology. The resulting coating is designed to be highly durable and to deliver outstanding corrosion and chemical resistance.

SUGGESTED USES
As a high performance direct-to-metal (DTM) coating or topcoat on carbon steel, galvanized steel, stainless steel, aluminum, concrete, concrete block and wood where:

- Rusted, hand or power-tool cleaned surfaces must be protected.
- Single coat applications up to 10 mils dry film thickness are required.
- Application will be made over damp surfaces and/or under conditions of high relative humidity.
- Excellent resistance to chemical and/or marine environments is required.
- Outstanding abrasion resistance and edge protection are required.
- Application by brush and roller, in addition to spraying, may be necessary.
- Application must be made at temperatures as low as 35°F.
- No induction time and long pot life will improve productivity.

Corlar 2.1 ST may also be used as a high performance tank lining primer on carbon steel or concrete for immersion service in near neutral pH water, fresh water, or saltwater. Corlar 2.1 ST is not recommended for use with potable water. Contact your Axalta representative for specific immersion service recommendations and procedures.

Corlar 2.1 ST is primarily designed for corrosion protection. Corlar 2.1 ST will chalk upon exposure to sunlight. If gloss, color retention and color stability are important, Corlar 2.1 ST should be topcoated with Imron® Industrial Strength, Imron 2.1 HG™ + or Imron 3.5 HG™ + or other appropriate topcoat. In high temperature applications, some yellowing may occur.

COMPATIBILITY WITH OTHER COATINGS
Corlar 2.1 ST is highly compatible with most coating types. It may be used over most aged and hard cured coatings in good condition. Testing for lifting, bubbling and adhesion is recommended to assure compatibility with unknown coatings. Contact your Axalta representative for specific recommendations.

NOT RECOMMENDED FOR
- Immersion service in potable water, chemicals or hydrocarbons
- Extreme exposure without topcoat

RECOMMENDATIONS FOR IMMERSION SERVICE
Corlar 2.1 ST when applied in multiple coats (at least 2) at 10-12 mil DFT is recommended for immersion service in near neutral, fresh or saltwater exposures. It is not recommended for use with potable water. It may be used for fire water towers, ballast tanks, clarifiers, wastewater treatment plants, offshore structures, pier pilings and supports and other areas where a high level of water resistance is required. Do not roll for immersion applications. Spray apply only.

PERFORMANCE PROPERTIES

Abrasion & Mechanical	Excellent
Alkalis	Excellent
Humidity	Excellent
Solvents	Excellent
Acids	Very Good
Salts	Excellent
Weather	Very Good (will chalk on exterior exposure)
Ammonia	Excellent

COLOR

Various. Select Factory Packaged colors and custom mixes available.

The products referenced herein may not be sold in your market. Please consult your distributor for product availability.

MIXING

COMPONENTS

Corlar 2.1 ST – Base	1 gallon container short filled to allow for colorant
1LB25P – Light base	(124 oz/gal)
2MB25P – Medium base	(120 oz/gal)
3DB25P – Deep base	(116 oz/gal)
4NB25P – Neutral base	(112 oz/gal)
Corlar VF-525™ Activator	1 gallon container 100% Full (128 oz.)

MIX RATIO

Component	**Part by Vol.**
Corlar 2.1 ST - Base	1
Corlar VF-525 Activator	1

ACTIVATION

Using a shear mixer at low speed so to create a small vortex, mix Corlar 2.1 ST base. Using same procedure, mix VF-525 activator. Slowly add 1 part Corlar VF -525 activator to 1 part Corlar 2.1 ST base. Mix throughly. DO NOT SHAKE. You may begin painting immediately, —there is no induction time.

Reduction

2-5% of Y-32035™ is required under normal conditions for airless spray. 7-10% of Y-32035 is the suggested level of thinning for conventional spray. For maximum pot life, reduce 15% by volume with Y-32035 or RT001P™. Use 10-15% T-8054™ Thinner in hot or windy conditions for spray application. Reduce 10-15% with RT001P Thinner when applying by roller or brush. If more reduction is required, consult your local Axalta representative.

For use in 2.08 VOC Restricted Areas: 10% T-1025™ must be added with constant mixing. Use without T-1025 or with any other thinner will result in VOC levels higher than 2.08 lbs/gal. At 15% reduction, reduced maximum film thickness will be obtained.

APPLICATION THINNERS

Normal Conditions	Y-32035
Hot or Windy Conditions	T-8054 (spray)
Brush or Roll	RT001P
For 2.08 VOC	T-1025

POT LIFE

8 hours @ 70°F to 90°F when reduced 15% by volume with Y-32035 or RT001P thinner.

APPLICATION

SURFACE PREPARATION

For atmospheric service, an SSPC-SP 6 Commercial Blast Cleaning is preferred for optimal performance. If not possible or practical, then Hand Tool Clean to an SSPC-SP 2 or Power Tool Clean to an SSPC-SP 3. For immersion service, an SSPC-SP 5 White Metal Blast is required.

APPLICATION CONDITIONS

Do not apply if material, substrate or ambient temperature is below 35°F (2°C) or above 100°F (38°C). For intermittent service temperatures above 250°F, do not topcoat.

ROLL APPLICATION

Manufacturer: Wooster® Pro/Doo-Z ½"- ¾" nap

- Keep roll wet. Roll in one direction, rewet, then cross roll.
- Do not roll for immersion applications. Spray apply only.

BRUSH APPLICATION

Manufacturer: Wooster® China Bristle - 3”-4” brush

SPRAY APPLICATION

Manufacturers listed below are a guide. Others may be used. Changes in tip size or pressure may be required to achieve proper application.

Conventional Spray

	Binks	DeVilbiss	SATA
Spray Gun:	2001	JGA	K3RP
Fluid Nozzle:	67SS	D (2.2)	1.1
Pot Pressure:			25
Atomizing Pressure			36
Air Cap:	67PB	64 HD	

HVLP Spray

	Binks	DeVilbiss
Spray Gun:	Mach 1	GTi
Fluid Nozzle:	905 (2.3)	2.0
Air Cap:	905P	2000

Airless Spray

Pump:	Graco Extreme 33:1
Airless Gun:	Graco 207945
Fluid Hose:	3/8" x 50' max.
Tips:	414-527

Minimum pressure to avoid fingering: 2400 psi min.

Application Notes

- If using D fluid nozzle, minimize reduction to avoid runs and sags
- When applying over inorganic zinc primers, a mist coat is recommended for best results to minimize bubbling. Apply a mist coat and allow bubbles to break. Apply a full wet coat after mist coat.
- Under certain high humidity and low temperature conditions, an amine blush is possible. This blush should be removed before proceeding with next coat by wiping surface with an alcohol-based solvent.
- Epoxies chalk with extended exposure to sunlight. Lack of ventilation, incomplete mixing, mis-catalyzation or the use of heaters that emit carbon dioxide and carbon monoxide during application and initial stages of curing may cause yellowing to occur.

Re-Coat
Recoating of Corlar 2.1 ST should be done as soon as possible after dry to touch, a minimum of 3-5 hours at 70°F, up to overnight. If you cannot recoat within 7 days up to 30 days, and you have not exposed the Corlar 2.1 ST to strong exterior sunlight and elevated temperatures over 100°F, you should water wash with a minimum of 1500 psi to remove any surface contamination. If you cannot recoat before 30 days and have exposed the Corlar 2.1 ST surfaces to exterior sunlight and elevated temperatures over 100°F, you should either:

Option 1: Water wash the surface with 1500 psi and apply 1-2 mils DFT tack-mist coat Corlar 2.1 ST over the existing Corlar 2.1 ST painted surface and topcoat within 3-5 hours up to overnight, or
Option 2: Water wash the surface with 1500 psi and abrasively brush-blast to an SSPC-SP7 (sweep-blast) and topcoat within 3-5 hours up to overnight.

CLEAN UP THINNERS
T-8054 or MEK

DRY TIMES

Cure Time At Recommended Thickness 5 mils DTF @ 50% RH

	50°F (10°C)	70°F (21°C)	90°F (32°C)
To Touch	3-4 hours	2-3 hours	1-2 hours
To Handle	8 hours	4 hours	2 hours
To Recoat	5 hours	3 hours	2 hours
Full Cure	14 Days	7 Days	4 Days

PHYSICAL PROPERTIES

Maximum Service Temperature	Up to: 250°F Continuous 300°F Intermittent 100°F Immersion
Volume Solids	72% ± 2%
Weight Solids	83% ± 2%
Theoretical Coverage Per Gallon	1155 ft² @ 1 mil DFT 230 ft² @ 5 mils DFT 115 ft² @ 10 mils DFT

Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.

Weight Per Gallon	11.8 lbs./gal ± 0.2% | 5.4 kg. avg.
Shipping Weight (approximate)	1 gallon container: 14 (base) / 11 (activator); 5 gallon container: 64 (base) / 55 (activator)
Suggested Film Thickness:	
Single Coat	5-8 mils - noncorrosive environment 10-12 mils - corrosive environment
Primer	3-8 mils
Mid Coat	4-6 mils
Immersion	10 - 12 mils

Application by brush and roller may require additional coats to achieve recommended films thickness.

Flash Point:	
Corlar 2.1 ST Bases	> 100°F
Corlar VF-525 Activator	< 73°F
Gloss:	Satin Finish
Package Size:	1 & 5 gallon containers
Shelf Life:	12 months minimum

STORAGE CONDITIONS

Store in a dry, well-ventilated area. Storage conditions should be between -30°F (-34°C) and 120°F (48°C).

Corlar 2.1 ST may settle. Agitate before each use and intermittently while sitting in storage.

VOC REGULATIONS

VOC (Theoretical less water and exempt compounds).

Condition	Thinner	% Max	VOC (lbs/gal)*	VOC (g/l)*
Airless Normal	Y32035	2-5	2.3	276
Conventional	Y32035	7-10	2.5	300
Max. Pot Life	Y32035	15	2.7	324
	RT001P	15	2.8	336
Hot & Windy	T-8054	10-15	2.8	336
Brush & Roll	RT001P	10-15	2.8	336
Mixed Unthinned			2.1	252
For 2.08 VOC Restricted Areas				
	T-1025	10	2.0	240

* Reported values at higher level of reduction (theoretical/avg. across colors.)

These directions refer to the use of products which may be restricted or require special mixing instructions in VOC regulated areas. Follow mixing usage and recommendations in the VOC Compliant Products Chart for your area.

ASTM INFORMATION

Physical properties are averages. Properties for Corlar 2.1 ST are enhanced when used in conjunction with topcoats such as Imron® polyurethane or applied at higher film builds. The results listed below are obtained when applying Corlar 2.1 ST (gray) to 5.1 mils DFT. For other system results, contact Axalta Coating Systems.

Paint System: Corlar 2.1 ST
Type | Color: Epoxy | Grey
DFT: 5.1 mils

Salt Fog (ASTM B117)	1000 hours	no rusting, no blisters
	2000 hours	no rusting, few #2 blisters at the scribe
	3000 hours	no rusting, no undercutting at the scribe, medium #2 blisters at the scribe
Relative Humidity (ASTM D2247)	1000 hours	no rusting, no blisters
	2000 hours	no rusting, no blisters
	3000 hours	no rusting, no blisters
Dry Heat (ASTM D2485)	250°F for 24 hours	no cracking, very slight loss of adhesion, slight discoloration
Electrical Resistance (ASTM D2457):	28.3X10^17	
Adhesion (ASTM D4521 A2):	1834 psi	adhesion failure between | coating and substrate
Cleveland Cond (ASTM D4585):	1000 hours	no rusting, no blisters, no delamination
UV Con (ASTM D4587)*	3000 hours	Gloss before exposure 48.9 Gloss after exposure 1.5
	Evaluation	no rusting, no blisters, no delamination
Impact (ASTM D2794):	3 inch pounds	
Mandrel Bend (ASTM D522):	% Elongation - 0%	
Taber Abrasion (ASTM D4060):	weight loss in grams - .07	

*8 hour UV @ 50°C, 4 hour condensation @ 40°C, gloss readings @ 60°

SAFETY AND HANDLING

For industrial use only by professional, trained painters. Not for sale to or use by the general public. Before using, read and follow all label and MSDS precautions. If mixed with other components, mixture will have hazards of all components.

Ready to use paint materials containing isocyanates can cause irritation of the respiratory organs and hypersensitive reactions. Asthma sufferers, those with allergies and anyone with a history of respiratory complaints must not be asked to work with products containing isocyanates.

Do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

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