



# CORLAR® 2.1 HTA™

## HIGH TEMPERATURE ALUMINUM EPOXY MASTIC

*(Formerly Corlar® 2.4 HTA™)*

Corlar® 2.1 HTA™ is a high-solids, high build, two-package, VOC Conforming (2.1 lbs/gal) aluminum epoxy mastic based on DuPont amido amine modified polyamide epoxy technology. The resulting highly durable coating delivers outstanding combination of corrosion, chemical and high temperature resistance.

### SUGGESTED USES:

As a high performance direct-to-metal (DTM) coating, primer, or intermediate coat on carbon steel, galvanized steel or aluminum where:

- Surfaces that will operate at up to 450°F continuously (or 500°F intermittently) must be protected.
- A highly durable one coat direct-to-metal aluminum coating up to 10 mils dry film thickness is required.
- Rusted, hand or power-tool cleaned surfaces must be protected.
- 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.
- No induction time and long pot life will improve productivity.
- Application must be made at temperatures as low as 35°F.

Corlar® 2.1 HTA™ may also be used as a high performance tank lining primer under Corlar® 2.1 ST™ on carbon steel for immersion service in near neutral pH water, fresh water, or saltwater. Corlar® 2.1 HTA™ is not recommended for use with potable water. Contact your DuPont Performance Coatings Representative for specific immersion service recommendations and procedures.

### NOT RECOMMENDED FOR:

Immersion service in potable water, chemicals or hydrocarbons.

### RECOMMENDATIONS FOR IMMERSION SERVICE:

Corlar® 2.1 HTA™ 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. See Additional Comment #5.

### COMPATIBILITY WITH OTHER COATINGS:


Corlar® 2.1 HTA™ may be topcoated with other Corlar® epoxies and/or Imron® polyurethanes.

Corlar® 2.1 HTA™ 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 DuPont Performance Coatings Representative for specific recommendations.

### MAXIMUM SERVICE TEMPERATURE:

Up to	450°F	Continuous
	500°F	Intermittent
	100°F	Immersion

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**COLOR CHANGE/CHALKING:**

Corlar® 2.1 HTA™ is primarily designed for corrosion protection. If gloss, color retention and color stability are important, Corlar® 2.1 HTA™ should be topcoated with Imron® 2.8 HG™ or Imron® 3.5 HG™, Tufcote® 3.5 HG-NI™ or other appropriate topcoat. Corlar® 2.1 HTA™ will brighten to some degree with exterior exposure. However, in high temperature applications, some yellowing may occur. See Additional Comment #10.

**PERFORMANCE PROPERTIES:**

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

**VOLATILE ORGANIC CONTENT (VOC) THEORETICAL:**

Condition	Thinner	% VOC		
		Max	(lbs/gal)*	(g/l)*
Airless Normal	Y32035™	2-5	2.3	276
Conventional	Y32035™	7-9	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	1HTA25P™		2.1	252
California Reducer	T1025™	10	2.0	240

\*Reported values at higher level of reduction (theoretical/ave.)

1HTA25P™ maximum reduction to stay within 2.8 lbs./gal. VOC = 15% with RT001P™, T-8054™ or Y32035™

**COLOR:**

Aluminum – 1HTA25P™

**GLOSS:**

Satin Finish

**CURE TIME – HOURS @ 50% R.H. @ 5 MILS SUGGESTED DFT**

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

**THEORETICAL COVERAGE PER GALLON:**

1042 ft.<sup>2</sup> @ 1 mil DFT  
 209 ft.<sup>2</sup> @ 5 mils DFT  
 104 ft.<sup>2</sup> @ 10 mils DFT

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

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**SUGGESTED FILM BUILD (DFT):**

Single Coat	5-8 mils in noncorrosive environment 10-12 mils in corrosive environment
Primer	3-8 mils
Mid Coat	4-6 mils
Immersion	10 - 12 mils

**VOLUME SOLIDS (MIXED):**

65% ± 2%

**WEIGHT SOLIDS (MIXED):**

76% ± 2%

**WEIGHT PER GALLON (MIXED):**

10.2 lb ± 0.2

**FLASH POINT (TAG CLOSED CUP):**

Base -73L

Activator -73L

**PACKAGING:**

1 & 5 gallon containers

**SHIPPING WEIGHT (LBS.) APPROXIMATE:**

1 gallon container: 12 (base) / 11 (activator);

5 gallon container: 54 (base) / 55 (activator)

**SHELF LIFE & STORAGE CONDITIONS:**

Store in a dry, well ventilated area, storage temperatures should be between -30°F (-34°C) and 100°F (38°C)

- Shelf Life 1 year minimum
- Corlar® 2.1 HTA™ may settle. Agitate before each use and intermittently while sitting in storage.

**SAFETY:**

Consult the Material Safety Data Sheet for this product prior to use.

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## APPLICATION INSTRUCTIONS

### **SURFACE PREPARATION:**

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

### **ACTIVATION:**

Add 1 part Corlar® FG-2HTA™ activator to 1 part Corlar® 2.1 HTA™ (1HTA25P™) base. Mix until thoroughly blended. You may begin painting immediately—there is no induction time. See additional comment #12.

### **POT LIFE:**

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

### **REDUCTION:**

2-5% of DuPont Y-32035™ is required under normal conditions for airless spray. 7-9% with DuPont Y32035™ is the suggested level of thinning for conventional spray. For maximum pot life, reduce 15% by volume with DuPont Y-32035™ or DuPont RT001P™. Use 10-15% DuPont 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 DuPont Performance Coatings Representative. Can also be reduced 10% with T-1025 to remain <2.1lbs/gal VOC. See Additional Comments #2

### **APPLICATION THINNERS:**

Normal Conditions — DuPont Y-32035™  
 Hot or Windy Conditions — DuPont T-8054™ (spray)  
 Brush or Roll — DuPont RT001P™

### **CLEAN UP THINNERS:**

DuPont T-8054™ or MEK

### **APPLICATION CONDITIONS:**

Do not apply if material, substrate or ambient temperature is below 35°F (2°C) or above 100°F (38°C).

### **APPLICATION EQUIPMENT:**

- Apply by brush, roll, or spray.
- Manufacturers listed below are a guide. Others may be used. Changes in pressure and tip size may be required to achieve proper application.

### **BRUSH & ROLL:**

- ½"-¾" nap Wooster Pro/Doo-Z roller cover. Keep roll wet. Roll in one direction, rewet, then cross roll.
- 3"-4" Wooster China Bristle Brush

### **CONVENTIONAL SPRAY:**

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

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**HVLP SPRAY:**

	<u>Binks</u>	<u>DeVilbiss</u>
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.

**ADDITIONAL COMMENTS:**

1. USDA approved.
2. At 15% reduction, reduced maximum film thickness will be obtained.
3. If using D fluid nozzle, minimize reduction to avoid runs and sags.
4. Recoating of Corlar® 2.1 HTA™ 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 HTA™ 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 HTA™ 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 HTA™ over the Corlar® 2.1 HTA™ 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.
5. Do not roll for immersion applications. Spray apply only.
6. 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.
7. 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.
8. Epoxies chalk with extended exposure to sunlight. Lack of ventilation, incomplete mixing, miscatalyzation or the use of heaters that emit carbon dioxide and carbon monoxide during application and initial stages of curing may cause yellowing to occur.
9. Corlar® 2.1 HTA™ has a temperature resistance of 450°F, but should be applied to surface when surface temperature and material temperature is 100°F or less.
10. For service temperatures above 250°F, do not topcoat.
11. When equipment or piping coated with Corlar® 2.1 HTA™ is returned to service, operating temperature should be increased 50°F per hour or less until reaching the maximum.
12. Care should be taken not to mix Corlar® 2.1 HTA component products with other DuPont® Industrial Coatings High Temperature Products. **DO NOT** mix 1HTA25P™ with VF-525™. **DO NOT** mix FG-2HTA™ with 6AL25P™.

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**ASTM INFORMATION**

Physical properties are averages. Properties for Corlar® 2.1 HTA™ 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 1HTA25P™ to 5.1 mils DFT. For specific system results, contact DuPont Technical Service at 1-800-3DUPONT.

◆ Paint System	Corlar® 2.4 HTA™ 6AL25P™ -----(NOW Corlar® 2.1 HTA™)	
◆ Type/Color	Aluminum Filled Epoxy/Silver	
◆ DFT	5.1	
◆ Salt Fog (ASTM B117)	1000 hours	no rusting, no blisters
◆ 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, very slight discoloration
◆ Electrical Resistance (ASTM D2457):	<1X10 <sup>3</sup>	
◆ Adhesion (ASTM D4521 A2):	1875 psi	cohesive failure within coating
◆ Cleveland Cond (ASTM D4585):	1000 hours	no rusting, no blisters, no delamination
◆ UV Con (ASTM D4587)*	3000 hours	Gloss before exposure 15.8
		Gloss after exposure 5.7
	Evaluation	no rusting, no blisters, no delamination
◆ Impact (ASTM D2794):	1 inch pound	
◆ Mandrel Bend (ASTM D522):	% Elongation - 0%	
◆ Taber Abrasion (ASTM D4060):	weight loss in grams - 0.41	

\*8 hr UV @ 50°C, 4-hr condensation @ 40°C, gloss readings @ 60°