



Corlar® LV PR 178 Series Epoxy Primer



GENERAL

DESCRIPTION

A two-component very low VOC corrosion-resistant epoxy primer designed to be extremely tough and durable. When properly activated, the combined component VOC level is 0.8 lbs./gal (100 g/l) and is HAPS-free and BPA-free. This epoxy primer is formulated to provide exceptional adhesion to deliver excellent long-term corrosion protection for above water exposures.

SUGGESTED USES

For use as a highly durable primer indoors, outdoors, above water, and over properly prepared steel, wood, concrete, and aluminum where:

- Priming and protecting unpainted steel is needed
- Application by brush and roller, in addition to spraying, may be necessary.
- Application at temperatures as low as 40°F.
- Application where longer open times are desired.

Corlar LV P 178 is intended to be used as a primer and should be top-coated with epoxy or polyurethane topcoats.

COMPATIBILITY WITH OTHER COATINGS

- Corlar LV PR 178 Series Epoxy Primer may lift old paint. Testing for lifting, bubbling and adhesion is recommended to assure compatibility with unknown coatings. If lifting occurs, remove old paint and follow directions for bare ferrous metals. Be sure all loose and peeling paint is completely removed, and the surface is clean. Remove excess chalkiness with a wire brush or by sanding. Contact your Axalta representative for specific recommendations.
- May be top coated with Axalta Imron® polyurethane and Corlar epoxy products.

NOT RECOMMENDED FOR

- Immersion service

PERFORMANCE PROPERTIES

(with appropriate topcoat)

Alkalis	Excellent
Solvents	Excellent
Acids	Very Good
Humidity	Excellent
Weather	Excellent (will chalk if left un-top-coated)

COLOR

178-101 Grey

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



MIXING

COMPONENTS

Corlar LV PR 178 – 178-101 Base	1 gallon container 80% full (102 oz.)
Corlar LV PR 178 Activator - FG-178	1 quart container 80% full (26 oz.)
Corlar LV PR 178 – 178-101 Base	5 gallon container- 4 gallons
Corlar LV PR 178 Activator - FG-178	1 gallon – full filled

MIX RATIO

Component	Part by Vol.
Corlar LV PR 178 –178-101 Base	4
Corlar FG-178 Activator	1

ACTIVATION

Mix only when ready to use. Using a shear mixer at low speed so to create a small vortex, mix Corlar LV PR 178-101 base. Using same procedure mix, FG-178 activator. Slowly add 1 part FG-178 Activator to 4 parts Corlar LV PR 178, 178-101. Continue to mix at low speed using a shear mixer until thoroughly blended.

Reduction

No reduction is necessary for spray application. However, if atmospheric conditions produce an undesired appearance, then reduce with low VOC reducers to desired viscosity after the FG-178 activator has been added.

Up to 5% reduction with T-1025, 9M01 or T-1021 may be added. For brush and roll application, up to 5% of T-1025 should be added. If more reduction is required, consult your local Axalta representative.

APPLICATION THINNERS

Normal Conditions	up to 5% T-1021 or 9M01
Hot or Windy Conditions	up to 5% T-1025
Brush or Roll	up to 5% T-1025

POT LIFE

2-3 hours @ 75°F

Pot life will be reduced as the ambient temperature rises and/or when mixture exceeds 1 gallon.



APPLICATION

SURFACE PREPARATION

SSPC-SP-6 Commercial Blast Cleaning will provide very good performance. If not possible or practical, then Hand Tool Clean to an SSPC-SP 2 or Power Tool Clean to an SSPC-SP 3 with some sacrifice in performance vs. blasted surfaces. Other surface preparations such as Phosphating, Alodine and/or Sanding maybe required and are also acceptable as long as surface is clean, free of rust etc. Surface must be clean, dry and free of chemical contamination. Average peak to valley surface profile shall be 1.5 to 2.5 mils.

All Surfaces to be painted should be clean, dry and in fit condition to be painted. Be sure to remove all wax, silicone, oil powdery or scaling rust, loose or peeling paint and all other foreign matter. Smooth, slick surfaces should be sanded to promote adhesion.

BARE FERROUS AND NON FERROUS METAL: Clean off all dirt, grease, oil, wax or other foreign matter. All loose, powdery or scaling rust must also be removed. A completely de-rusted surface is recommended.

Aluminum surfaces should be properly treated. Surface preparations may include sanding, brush off blasting (SSPC-SP7), alodine treatment, treatment with an acid, or other preparation necessary to ensure adhesion. All aluminums are not alike, it is strongly suggested that adhesion testing be done to assure system robustness.



Galvanized steel surface preparation may include detergent washing, pre-treatment and abrasion for new surfaces; for weathered surfaces, detergent washing and sanding. For new galvanized surfaces, acid treatments, degreasing and abrasion might be required before application of appropriate primer.

BARE WOOD: Clean wood thoroughly. Prime and seal with one coat of 178GY5 Solventborne Epoxy Primer.

APPLICATION CONDITIONS

Do not apply if material, substrate or ambient temperature is below 40°F (4°C) and above 110°F (43°C). The substrate must be at least 5°F (3°C) above the dew point. Relative humidity should be below 85% and free from other sources of moisture.

Note: High humidity, which can lead to condensation (sweating), is to be avoided during application and initial curing. For best results, apply only when temperature during application and for four hours thereafter is expected to be above 40°F (4°C). Higher temperatures will result in quicker dry times. To assure adhesion in conditions that are questionable, a wipe with IPA or sanding is recommended.

Apply by spray, or in small areas by brush or roller in an even, wet coat. Give particular attention to all irregularities to ensure that they are completely covered. On a porous-type primer or substrate, the use of a thin or 'mist' coat may be needed.

ROLL APPLICATION

Manufacturer: Wooster Pro/Doo-Z ¼" - ½" nap

- Keep roll wet. Roll in one direction, rewet, then cross roll.
- When applying by rolling, a minimum of 2 coats will be required to achieve recommended DFT.

BRUSH APPLICATION

Manufacturer: Wooster China Bristle - 3"-4" brush

- When applying by brush, a minimum of three coats could be required.

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

	<u>Binks</u>	<u>DeVilbiss</u>	<u>SATA</u>
Spray Gun:	2001	JGA	K3RP
Fluid Nozzle:	63CSS	FF (1.4)	1.0-1.7
Pot Pressure:			25
Atomizing Pressure			36
Air Cap:	63PR	765	

HVLP Spray

	<u>Binks</u>	<u>DeVilbiss</u>
Spray Gun:	Mach 1	GTi
Fluid Nozzle:	94 (1.4)	1.4
Air Cap:	93P	2000

Airless Spray

Pump:	Graco Extreme 33:1
Airless Gun:	Graco 207945
Fluid Hose:	3/8" x 50' max.
Tips:	415-519
Minimum pressure to avoid fingering:	2700 psi min.

Application Notes

Apply by spray for best results. Corlar PR LV 178 may be brushed or rolled with some sacrifice in appearance.



Re-Coat

Recoat when material is relatively dry and firm (starting @ 2 hours - 7 days at 77°F and 50% RH). Check for desired film thickness and continuity. Allow final dry time of at least 7 days at 77°F, for complete property development. All solvent vapors should be removed before placing in service. Curing time is significantly shorter at higher temperatures or lower film thicknesses, and longer at lower temperatures or higher film thicknesses.

If you cannot recoat within 7 days, a light sanding with 220 – 320 grit sandpaper, must be done to assure proper topcoat adhesion. You should water wash with a minimum of 1500 psi to remove any surface contamination.

CLEAN UP THINNERS

T-1021

Thoroughly clean equipment immediately after use in an enclosed spray equipment cleaner with compliant cleaners.



DRY TIMES

Cure Time at Recommended Thickness 2- 3 mils DTF @ 50% RH

	77°F
Tack Free	3.5 hours
To Touch	2 – 3 hours (Some tack)
Recoat	2 – 3 hours
To Topcoat	2 – 3 hours
Hard Dry	6 hours
Full Cure	7 days

Corlar LV PR 178 can be applied at temperatures as low as 40°F. Dry times due to the colder temperatures, are extended significantly. Recoat times are a minimum of 16 hours at 40°F. All efforts should be made to maintain surface and air temperatures above 40°F.



PHYSICAL PROPERTIES

Maximum Service Temperature	250°F (121°C) Continuous Service
Volume Solids	61% ± 2%
Weight Solids	69% ± 2%
Theoretical Coverage Per Gallon	981 ft ² @ 1 mils DFT

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

Viscosity (using Zahn #4 cup)	Base:	12.59 seconds
	Activator:	17.15 seconds
Catalyzed Viscosity (4:1)	Initial:	10.75 seconds
	30 minutes:	12.50 seconds
	1 hour:	14.50 seconds
	2 hours:	20.82 seconds
Weight Per Gallon	11.2 lbs./gal ± 0.2%	
Shipping Weight (approximate)	1 gallon container: @12 (base)	
	5-gallon container: @47 (base)	

Suggested Film Thickness:

- 5-6 mils (125- 150 µm) wet
- 3-4 mils (75-100 µm) dry

NOTE: Corlar LV PR 178 can be applied in higher builds, @ 5 mils dft, for additional corrosion resistance.

- 8-10 mils (200-250 µm) wet
- 5-6 mils (125-150 µm) dry

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



Flash Point:	Base: 3.9°F
Gloss:	Activator: 212°F
Package Size:	Semi
Shelf Life:	1 & 5 gallon containers
Solvents used:	Consult Axalta for current package availability.
	12 months minimum
	Dibasic Ester, Pentyl Propionate, Methyl Acetate, PCFTF and n-Butyl Acetate

STORAGE CONDITIONS

Store in a dry, well-ventilated area. Storage conditions should not exceed 90°F (32°C).

VOC REGULATIONS

VOC	VOC (Le) lbs/gal
All Colors Mixed with FG-178 No reduction	0.80
All Colors Mixed with FG-178 and reduced 5% with T-1025	0.78
All Colors Mixed with FG-178 and reduced 5% with T-9M01	0.80
HAPS (Theoretical, varies with color)	
	<u>lbs/gal max solids</u>
All Colors Mixed with FG-178 No reduction all conditions	0.0

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 for a system of Corlar LV PR 178, (4-5 mils dft), applied over blasted steel, topcoated with Imron 3.5 HG + (2 mils dft). For other system results, contact Axalta Coating Systems.

Paint System: Corlar LV PR 178/ Imron 3.5 HG +
 Type | Color: Epoxy | Grey - Urethane - Black
 DFT 4/2

Impact- Direct (ASTM D2794):	Passes 30 inch pounds
Adhesion to steel:	5B
Flexibility	Pass ¼" - 4 days air dry
Gloss 60°	75° (6 mil drawdown)
Pencil hardness:	F – 4 days air dry
Salt Fog (ASTM B117)	2500 hours
	Rating 9
Relative Humidity (ASTM D2247)	2500 hours
	Rating 10



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.

All technical advice, recommendations and services are rendered by the Seller gratis. They are based on technical data which the Seller believes to be reliable and are intended for professional use by persons having skill and know-how at their own discretion and risk. Seller assumes no responsibility for results obtained or damages incurred from their use by Buyer in whole or in part. Such recommendations, technical advice or services are not to be taken as a license to operate under or intended to suggest infringement of any existing patent.

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