

Acrylic Polyurethane Enamel

AUE-300

AUE-300 Low VOC Polyurethane Enamel is recommended for interior and exterior use on properly prepared and or primed metal surfaces. Example applications include metal fabrication, castings, cabinets, machinery, and heavy equipment.

AUE-300 Low VOC Polyurethane Enamel is an easy-to-spray topcoat providing a range of performance properties including excellent chemical and corrosion resistance as well as superb impact, mar, and abrasion resistance.

Features and benefits:

- 3.5 VOC Polyurethane (ready to spray)
- Smooth film with minimal orange peel and excellent gloss/DOI
- Excellent corrosion and chemical protection
- Shares catalyst with other urethane products

Associated Products:

- AUE-300 Low VOC Polyurethane Enamel
- AUE-301 Catalyst For AUE-300
- AUE-3501 Urethane Hardener
- GXH1086 Urethane Hardener
- GXH1080 Urethane Hardener
- UA-11 Urethane Accelerator
- UH-511 Polyurethane Primer / Topcoat Hardener

Physical Constants: *All values are theoretical, depend on color and are Ready-to-Spray.
Actual values could vary slightly due to manufacturing variability.*

	AUE-300 w/tints	AUE-300/ AUE-301 (RTS)	AUE-300/ AUE-3501 (RTS)	AUE-300/ GXH1086 (RTS)	AUE-300/ GXH1080 (RTS)	AUE-300/UH-511 (RTS)
Percent solids (by weight)	58.4 – 75.6%	58.8 – 71.9%	62.6 – 76.2%	61.5 – 74.8%	60.3 – 73.8%	59.2 – 73.5%
Percent solids (by volume)	52.1 – 61.3%	52.4 – 59.1%	56.6 – 64.2%	55.2 – 62.4%	54.0 – 61.3%	53.1 – 60.4%
HAPs	≤ 0.1 lbs/gal	≤ 0.1 lbs/gal	≤ 0.1 lbs/gal	≤ 0.1 lbs/gal	≤ 0.1 lbs/gal	≤ 0.3 lbs/gal
Photo-chemically reactive	No	No	No	No	Yes	Yes
RTS Combinations:	AUE-300 w/tints	AUE-300 w/tints : AUE-301 : UA-11	AUE-300 w/tints : AUE-3501 : UA-11	AUE-300 w/tints : GXH1086 : UA-11	AUE-300 w/tints : GXH1080 : UA-11	AUE-300 w/tints : UH-511 : UA-11
Volume Ratio	As is	3 : 1 : 6 oz/rts gal	5 : 1 : 6 oz/rts gal	4 : 1 : 6 oz/rts gal	4 : 1 : 6 oz/rts gal	5 : 1 : 6 oz/rts gal
Applicable Use Category	Single-Stage Ctg	Single-Stage Ctg	Single-Stage Ctg	Single-Stage Ctg	Single-Stage Ctg	Single-Stage Ctg
VOC Actual	331 – 422 (g/L) 2.75 – 3.52 (lbs/gal)	356 – 419 (g/L) 2.98 – 3.52 (lbs/gal)	308 – 380 (g/L) 2.57 – 3.17 (lbs/gal)	326 – 395 (g/L) 2.72 – 3.30 (lbs/gal)	339 – 409 (g/L) 2.83 – 3.41 (lbs/gal)	343 – 417 (g/L) 2.86 – 3.48 (lbs/gal)
VOC Regulatory (less water less exempt)	331 – 422 (g/L) 2.76 – 3.52 (lbs/gal)	356 – 419 (g/L) 2.97 – 3.50 (lbs/gal)	308 – 380 (g/L) 2.57 – 3.17 (lbs/gal)	325 – 395 (g/L) 2.72 – 3.31 (lbs/gal)	339 – 408 (g/L) 2.83 – 3.41 (lbs/gal)	344 – 417 (g/L) 2.87 – 3.48 (lbs/gal)
Density	1008 – 1382 (g/L) 8.40 – 11.52 (lbs/gal)	1015 – 1279 (g/L) 8.46 – 10.66 (lbs/gal)	1032 – 1329 (g/L) 8.60 – 11.08 (lbs/gal)	1023 – 1310 (g/L) 8.53 – 10.92 (lbs/gal)	1022 – 1309 (g/L) 8.52 – 10.91 (lbs/gal)	1014 – 1315 (g/L) 8.46 – 10.96 (lbs/gal)
Volatiles wt. %	24.4 – 41.6	28.2 – 41.2	23.5 – 36.6	25.3 – 38.5	26.2 – 39.7	26.5 – 40.8
Water wt. %	0 – 0.2	0 – 0.2	0 – 0.2	0 – 0.2	0 – 0.2	0 – 0.2
Exempt wt. %	0	0	0	0	0	0
Water vol. %	0 – 0.3	0 – 0.2	0 – 0.2	0 – 0.2	0 – 0.2	0 – 0.2
Exempt vol. %	0	0	0	0	0	0

Flashpoint

AUE-300 only = 99°F, AUE-301 only = 102°F, AUE-3501 only = 355°F
GXH1086 only = 102°F, GXH1080 only = 81°F, UA-11 only = 96°F, UH-511 only = 80°F

AUE-300

Directions for Use

Substrate Preparation:

The surface to be coated must be sanded and free of all contamination (including dust, dirt, oil, grease, and oxidation). Chemical treatment and the use of a conversion coating will improve the performance properties of the coating system. We recommend that adhesion and system compatibility be checked prior to full application.

Substrate	Direct to properly treated substrate
Cold Rolled Steel	Refer to CPCTB01 for approved primers.
Hot Rolled Steel	Refer to CPCTB01 for approved primers.
Galvaneal	Refer to CPCTB01 for approved primers.
Galvanized	Refer to CPCTB01 for approved primers.
Aluminum	Refer to CPCTB01 for approved primers.
Plastic / Fiberglass	Surface should be free of all contamination. Because of the variability of plastic/fiberglass substrates, coating performance should be confirmed on the actual plastic/fiberglass substrate being used.

Note: For improved performance between this topcoat and CPC primers please see the CPC Primer/Topcoat compatibility chart (CPCTB01).

Mix Directions:



Blend Ratio:

AUE-300/ AUE-301	AUE-300/ AUE-3501	AUE-300/ GXH1086	AUE-300/ GXH1080	AUE-300/ UH-511
3:1+ 6oz UA-11	5:1+ 6oz UA-11	4:1+ 6oz UA-11	4:1+ 6oz UA-11	5:1+ 6oz UA-11



Pot Life @ 77°F:

2 – 2.5 hours	1 – 1.5 hours	1 – 1.5 hours	1 – 1.5 hours	2 – 2.5 hours
---------------	---------------	---------------	---------------	---------------

Spray Viscosity Range:

#3 EZ Zahn 13 – 16 seconds	#3 EZ Zahn 15 – 20 seconds	#3 EZ Zahn 15 – 20 seconds	#3 EZ Zahn 15 – 20 seconds	#3 EZ Zahn 15 – 20 seconds
-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------



Reducers:

Not recommended in VOC compliant areas. In non-regulated areas, up to 10% of Q70 (MAK), Q50 (Aromatic 100), or Q160 (Aromatic 150) can be added. In regulated areas, Q30 (Acetone) can be used

Application Equipment:



Conventional (with or without Pressure Pot):	1.4 – 1.8 mm needle/nozzle with 50 – 70 psi at the gun
HVLP (with or without Pressure Pot):	1.3 – 1.6 mm needle/nozzle with 10 psi output at the gun
Airless:	No Recommendation
Air-Assistd Airless:	No Recommendation
Brush or Roll:	Not Recommended
Electrostatic:	Product may need to be reduced with solvent for improved electrostatic application in non-regulated areas.

Application:



Apply:	1 – 2 medium coats with 10 – 15 minute flash. Apply only when air, product, and surface temperature are above 50°F (10°C) and when surface temperature is at least 5°F (3°C) above the dew point.
--------	--

	AUE-300/ AUE-301	AUE-300/ AUE-3501	AUE-300/ GXH1086	AUE-300/ GXH1080	AUE-300/ UH-511
Recommended Wet Film Build:	2.5 – 3.8 mils	2.3 – 3.5 mils	2.4 – 3.6 mils	2.4 – 3.7 mils	2.5 – 3.8 mils
Recommended Dry Film Build:	1.5 – 2.0 mils	1.5 – 2.0 mils	1.5 – 2.0 mils	1.5 – 2.0 mils	1.5 – 2.0 mils
Square Foot Coverage @ 1.0 mil no loss:	842 – 947 sq. ft.	907 – 1029 sq. ft.	887 – 1000 sq. ft.	867 – 982 sq. ft.	851 – 969 sq. ft.

Dry Times:



Air Dry @ 77°F 50% RH:

Dry to Touch	1 hour
Dry to Handle	4 hours*
To Recoat	Up to 4 days
Force Dry:	After 10 minute flash: 10 minutes @ 180°F 20 minutes @ 140°F 30 minutes @ 120°F



* Paint film is not fully cured for 7 days. Drying time listed may vary, depending upon film build, color selection, temperature, humidity and degree of air movement.

AUE-300

Technical Data*

Performance Properties:

Test	ASTM Method	Results
Pencil Hardness	D3363	HB – F
Mandrel	D522	Pass
Chip Resistance	D3170	8
Gloss @ 60° Angle	D523	85 – 95
Adhesion	D3359	5B
In Service Temperature Limit**		300°F

** As you approach 300°F depending on the pigmentation, the color may change, but the film integrity will be maintained up to 300°F.

Chemical Resistance:

System:
BONDERITE® 1000
EPX-900
AUE-300

Chemical ASTM D1308	White AUE-300	Black AUE-300
Toluene	Medium Ring, Blister	Medium Ring, Blister
10% NaOH (Sodium Hydroxide)	Medium Ring, Blister	Pass
10% HCl (Hydrochloric acid)	Pass	Pass
10% H ₂ SO ₄ (Sulphuric acid)	Pass	Pass
Gasoline	Mild Stain, Yellowing	Medium Ring, Stain
Isopropyl Alcohol	Medium Ring, Blister	Medium Ring, Blister
Water†	Pass	Pass

† Although resistant to intermittent exposure, not recommended for immersion.

Weather Resistance:

Salt Spray System:
Blasted Hot Rolled Steel
CRE-904
AUE-300

Humidity Spray System:
Bonderite 1000
CRE-904
AUE-300

	ASTM Method	White AUE-300	Black AUE-300
Salt Spray – 1000 hours	B117		
Corrosion Creep	D1654	10A	10A
Scribe Blisters	D714	8F	8F
Face Blisters	D714	None	None
Humidity – 1000 hours	D2247		
5 Minute Recovery Adhesion	D3359 Method A	4A – 5A	4A – 5A
1 Hour Recovery Adhesion	D3359 Method A	4A – 5A	4A – 5A
24 Hour Recovery Adhesion	D3359 Method A	4A – 5A	4A – 5A
QUV-UVA: 60° angle	D4587		
200 hour retention	D523	95.5%	97.0%
500 hour retention	D523	96.9%	94.3%
QUV-UVB: 60° angle	D4587		
200 hour retention	D523	89.6%	91.1%
500 hour retention	D523	81.0%	71.5%

All tests results assume proper cure and preparation of test substrates. Unless otherwise stated, all results were obtained spraying product direct to metal on *Bonderite 1000*.

* The application and performance property data above are believed to be reliable based on laboratory findings. It is for the buyer to satisfy itself on the suitability of the product for its particular use. Variation in environment, procedures of use, or extrapolation of data may cause unsatisfactory results.

Miscellaneous:

Safety:



These materials are designed for application only by professional, trained personnel, using proper equipment under controlled conditions and are not intended for sale to the general public.

Safe application of paints and coatings requires knowledge of equipment, materials and individual training. Directions and precautionary information on both equipment and products should be carefully read and strictly observed for personal safety and property protection. Consideration must be given to eliminate conditions, which may generate hazardous atmospheres during spray application or subject operators or bystanders to injury or illness.

Special precautions must be taken when utilizing spray equipment, particularly airless equipment. High-pressure injection of coatings into the skin by airless equipment may cause serious injury requiring immediate medical attention at a hospital. Treatment advice may also be obtained from Poison Centers.

Air quality should be maintained with adequate ventilation; applicators can achieve additional protection by wearing respirators and other protective garments such as gloves and overalls. In all cases, wear protective eye equipment. During the application of all coatings materials, all flames, welding and smoking must be prohibited. Explosion proof equipment must be used when coating these materials in confined areas.

PRECAUTIONARY INFORMATION

Before using the products listed herein, carefully read each product label and follow directions for its use. Please read and observe all warnings and precautionary information on all product labels. Prevent all contact with skin and eyes and breathing of vapors and spray mist. Repeated inhalation of high vapor concentrations may cause a series of progressive effects including irritation of the respiratory system, permanent brain and nervous system damage and possible unconsciousness and death in poorly ventilated areas. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

KEEP OUT OF THE REACH OF CHILDREN

MEDICAL RESPONSE

Emergency Medical or Spill Control Information (412) 434-4515; CANADA (514) 645-1320 and in MEXICO 01-800-00-21-400. Have label information available.



Safety Data Sheets (SDS) for the PPG products mentioned in this publication are available through www.ppgcommercialcoatings.com (Safety, SDS Search) or your PPG Distributor.

For additional information regarding this product, see the SDS and LABEL information.



PPG Industries
Commercial Coatings
19699 Progress Drive
Strongsville, OH 44149
1-800-647-6050

PPG Canada Inc.
Commercial Coatings
2301 Royal Windsor Drive, Unit #6
Mississauga, Ontario L5J 1K5
1-888-310-4762