ALK-300E Series

Low VOC Acrylic Modified Alkyd Enamel

Product data sheet

ALK-300E is a fast-drying, exterior grade, 3.5 VOC alkyd enamel intended for industrial use on properly prepared and/or primed metal surfaces. Example applications include metal fabrication, castings, cabinets, machinery, and heavy equipment.

ALK-300E provides performance properties such as excellent film hardness, fast drying, and very good gloss.

Product highlights

- Fast drying, high solids
- No Reportable Haps
- Direct-to-metal capable
- Available in a wide range of color and gloss
- Can enhance appearance properties with ALK-201 Hardener

Associated product codes

- ALK-300E: High Gloss Clear
- ALK-300WHT: High Gloss White
- ALK-300ELG: Low Gloss Clear
- ALK-201: Hardener
- ALK-31: Drier for ALK-300

Physical constants[1]	ALK-300E w/ALK-31	ALK-300E w/ALK-31 w/ALK-201 (optional)*
Solids % by weight	66.5 ± 7.9	66.1 ± 5.9
Solids % by volume	56.0 ± 5.5	55.0 ± 3.2
HAPs	No Reportable HAPs	No Reportable HAPs
Photo-chemically reactive	No	No
Weight/Gallon	8.5 -11.06 lbs. /gal. (1020 – 1327 g/L)	8.59 - 10.67 lbs. /gal. (1030 – 1280 g/L)
VOC Max (less exempts)	3.5 lbs./gal. (420 g/L)	3.5 lbs./gal. (420 g/L)
VOC Max (actual)	3.5 lbs./gal. (420 g/L)	3.5 lbs./gal. (420 g/L)

* If needed, B component can be added to improve hardness and durability

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	Application Recommendations: Direct to Properly Prepared Substrate
Cold Rolled Steel	Good
Hot Rolled Steel	Good
Galvaneal	Not recommended over zinc substrates
Galvanized	Not recommended over zinc substrates
Aluminum	Fair
Plastic/Fiberglass	Adhesion check is recommended due to variability of substrate

1 All values are theoretical, depend on color and are ready to spray. Actual values could vary slightly due to manufacturing variability. Constants vary from color to color.

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Directions for use (continued)

Mix directions

Mix Directions	Stir thoroughly before and occasionally during use	
Thinning	Q30 to maintain 3.5 lbs/gal. VOC	
Line/Flush Clean Up	Q60 or Q30	
	ALK-300E w/ALK-31	ALK-300E w/ALK-31 w/ALK-201 (optional)
Blend Ratio	RTS (with 4oz ALK-31 per full gallon)	15:1 (with 4oz ALK-31 per full gallon)
Pot Life	N/A	6 hours

Application equipment*

	Application	Application Viscosity
Conventional Cup Gun	1.4 – 1.8 mm needle/nozzle w/40 – 50 psi at the gun	35 - 50" on #2 EZ Zahn
Conventional Pressure Pot	1.4 – 1.8 mm needle/nozzle w/40 – 50 psi at the gun 20 - 25 psi fluid pressure	45 - 60" on #2 EZ Zahn
HVLP (with or without pressure pot)	1.4 – 1.8 mm needle/nozzle w/10 psi at the cap	35 - 50" on #2 EZ Zahn
Airless	0.011" – 0.016" tip at 1500 – 2400 psi fluid pressure	70 - 85" on #2 EZ Zahn
Air-Assisted Airless	0.011" – 0.016" tip at 900 - 1300 psi fluid pressure	55 - 70" on #2 EZ Zahn

*For additional application information, refer to product application guide

Application

	ALK-300E w/ALK-31	ALK-300E w/ALK-31 & w/ALK-201
Apply	1-2 Coats with 10 - 15 min flash	1-2 Coats with 10 - 15 min flash
Recommended Wet Film Build	2.0 - 3.7 mils (51 - 94 microns)	2.0 - 3.7 mils (51 - 94 microns)
Recommended Dry Film Build	1.5 - 2.0 mils (38 - 51 microns)	1.5 - 2.0 mils (38 - 51 microns)
Coverage (at 1 mil no loss)	811 - 950 sq. ft/gal (75 - 88 meters sq./3.785L)	840- 936 sq. ft/gal (78 - 87 meters sq./3.785L)

Dry times

	ALK-300E w/ALK-31	ALK-300E w/ALK-31 & w/ALK-201
Air Dry @77°F (25°C) 50% RH		
To Touch	30 minutes	45 minutes
To Handle	2 hours*	2.5 hours*
To Recoat	Before 6 hours or after 24 hours to 4 days[2]	2 hours to 4 days
Force Dry	10 minutes air dry, bake 30 minutes @ 120°F (49°C)	

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

2 If recoated between 6 hours and 24 hours, lifting of previous finish will occur. Before 6 hours the coating is adequately solubilized to prevent lifting. After 24 hours, the coating has cured enough where solvent resistance is achieved.

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Technical data[3]

Performance properties

Test	ASTM Method	ALK-300E w/ALK-31	ALK-300E w/ALK-31 w/ALK-201 (optional)
Pencil Hardness	D3363	HB	HB
Gravelometer	D3170	2 - 4	5
Gloss @ 60°	D523	10 - 95	10 - 95
Adhesion	D3359	3B – 5B	5B
In Service Temperature Limit[4]	–	150°F (65°C)	150°F (65°C)

Chemical Resistance

Test	ASTM Method	ALK-300E w/ALK-31	ALK-300E w/ALK-31 w/ALK-201 (optional)
Toluene	D1308	Medium Blister, Ring	Mild Ring
10% NaOH (Sodium Hydroxide)	D1308	Medium Blister, Ring	Mild Ring
10% HCl (Hydrochloric acid)	D1308	Pass	Pass
10% H2SO4	D1308	Pass	Pass
Gasoline	D1308	Mild ring, yellow	Slight ring, yellow
Water[5]	D1308	Pass	Pass

Weather resistance

Test	ASTM Method	ALK-300E w/ALK-31	ALK-300E w/ALK-31 w/ALK-201 (optional)
Salt Spray 100 hours	**B117**		
Corrosion Creep	D1654	5A - 7A	7A
Scribe Blisters	D714	6D, 8D	6D, 8D
Face Blisters	D714	None	None
Humidity 100 hours	**D2247**		
5 Minute Adhesion Recovery	D3359	3B – 4B	5B
1 Hour Adhesion Recovery	D3359	2B - 3B	5B
24 Hour Adhesion Recovery	D3359	3B	5B
QUV-A: 60° angle	**D4587**		
250 hour gloss retention	D523	63 - 100%	88 - 100%
500 hour gloss retention	D523	63 - 99%	85 - 99%

3 The application and performance property data above is 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 may cause unsatisfactory results. All test results assume proper cure and preparation of test substrates. Unless otherwise stated, all results were obtained spraying product direct to metal on BONDERITE® 1000.

4 As you approach 150° F depending on the pigmentation, the color may change, but the film integrity will be maintained up to 150°F.

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

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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 operations 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 coating 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 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: US (412) 434-4515; Canada (514) 645-1320; and Mexico 01-800-00-21-400. Please have label information available.

Safety Data Sheets (SDS) for the PPG products mentioned in this publication are available through versolon.com (Safety, SDS Search) or through your PPG store or distributor. For additional information regarding this product, see the SDS and label information.