



AE Series AQUA-ELITE™ Waterborne Clear Topcoats

The AE Series AQUA-ELITE™ Topcoats are a line of self cross-linking waterborne, hybrid acrylic wood coatings. They are water-white, non-yellowing, non-flammable, low VOC, HAPs-Free, self-sealing coatings that are specifically designed for high demand interior wood finishing.

This product is part of the KCI GREENSTAR™ family of environmentally friendly coatings. KCI GREENSTAR™ products feature outstanding performance and meet or exceed all of the latest North American environmental standards. See the GREENSTAR™ Eco-Friendly Product Info Sheet for further details.

SUGGESTED APPLICATIONS

- interior trim and millwork
- office furniture
- household / institutional furniture
- cabinets
- kitchen and bath components

KEY PERFORMANCE FEATURES

- low odour, low VOC, HAPs Free
- formaldehyde and isocyanate free
- non-flammable
- non-yellowing
- excellent clarity / appearance
- excellent mar and scratch resistance
- easy to apply, excellent flow and levelling
- outstanding chemical and moisture resistance
- conforms to KCMA/ ANSI 161.1 (2012) Standards
- conforms to NAAWS System 8 "Acrylic Cross-linking, Waterborne Standards"

RELATED PRODUCTS

896 Series WB Colorants



PHYSICAL PROPERTIES

Available Sheens	10,25,50,70,90
Weight Solids	31% ±2
Volume Solids	28% ±2
Viscosity	25-30" @ 25°C Ford 4
Specific Gravity	1.0274 +/- 0.01 gms/cc @ 25°C
VOC	103 g/l
Typical coverage	8-10 m ² / ltr @ 1 mil dry

ADDITIONAL CHARACTERISTICS

Catalyzation:	n/a
Pot-Life:	n/a
Reduction:	Max. 3% by volume with water
Retarder:	n/a
Clean-up:	water; flush equipment with alcohol
Shelf-life:	1 year from date of manufacture

Dry Times

26°C (~78°F) 50%RH	
To Touch	10-20 minutes
To Sand	30-60 minutes
To Stack/Pack	18-24 hours

Note: Drying times will decrease at higher temperatures/lower humidity and will increase at lower temperatures/high humidity

COATING PREPARATION - Ensure product is stirred well and brought to room temperature before use. AE Series is gun ready for conventional, airless and air-assisted airless. Use only stainless steel or plastic components in areas of direct coating contact.

SURFACE PREPARATION - Wood surface should be clean, dry and free from any oil or grease. Pre-sanding of the wood is recommended in order to reduce grain raising and improve adhesion. Moisture content of the wood should be 7-9%. Stains, colour coats, glazes etc. should be applied according to manufacturer's directions should be dried prior to application of sealers/topcoats.

APPLICATION - This product is designed to be applied in ambient conditions of 12-32°C (~55-90°F) and below 50% relative humidity. AE Series topcoats can to be used self-sealing. Apply product in full uniform coats ideally applied at a rate of 3 to 4 mils wet. A normal finishing system consists of 1 seal coat and 1-2 topcoats. Total film thickness should not exceed 4 dry mils. Coating should be thoroughly dried and sanded smooth between coats. Sand with 240-320 grit

professional finishing stearated, silicon carbide sandpaper. It is recommended that the finished item be conditioned for 18-24 hours at room temperature prior to stacking and packing.

SPRAY EQUIPMENT RECOMMENDATIONS –

Conventional Siphon Feed	
Nozzle (0.060 to 0.080 inches)	
Atomizing Pressure (25-40 psi)	
Standard Pressure Pot	
Nozzle (0.060 to 0.080 inches)	
Atomizing Pressure (25-40 psi)	
Pot pressure (7-10 psi)	
HVLP (suction feed)	
Nozzle (0.061 to 0.072 inches)	
Atomizing pressure (30-40 psi)	

SAFETY – During application, always wear eye protection, gloves and appropriate work clothing to minimize contact. Use a respirator and safety glasses at all times when spraying.

This product is freezable. Protect from freezing. Keep containers tightly closed and do not expose to temperature extremes.

AE Series AQUA-ELITE™ Waterborne Clear Topcoats (cont'd)

PERFORMANCE TESTING / FILM CHARACTERISTICS

All performance testing is based on a composite of ASTM, AWI, ANSI and KCMA Standards

Household Chemical Resistance (ASTM D1308)

- test samples consist of 1 mil dry film on glass
- aged 7 days at room temperature prior to testing
- testing was performed by placing 1 milliliter of reagent on the surface of the dry film, under a watch glass for time as noted

Distilled Water (D1308.6.1.1)	24 hrs	No effect
Ethyl Alcohol (D1308.6.1.3)	24 hrs	No effect
Coffee @ 180F (D1308.6.1.13)	24 hrs	No effect
Vinegar (D1308.6.1.4)	24 hrs	No effect
Mustard (D1308.6.1.12)	2 hrs	No effect
Vegetable Oil (D1308.6.1.11)	24 hrs	No effect
Dish Detergent (D1308.6.1.8)	24 hrs	No effect

Note: A complete list of resistance tests with industrial and household chemicals can be found under ADDITIONAL STAIN TESTS

Hot Print Resistance (ASTM D 2091-96)

- test samples consisted of 1 mil dry film aged for 24 hours at room temperature prior to print testing
- duck cloth under a weight of 4 psi was then placed on dry film surface for a defined temperature/time
 - 72F (18 hrs) 4 psi...pass
 - 120F (1 hr) 4 psi.....pass
 - 140F (1 hr) 4 psi.....pass

Hot/Cold Cycling Test (ASTM D 1211-97)

- test samples were coated on red oak at 4 mils dry and aged 21 days at room temperature prior to testing.
- one cycle consisted of:
 - 120F / 70% RH for 1 hour room temperature for 1 hour
 - -5F for 1 hour
- specimens examined for discoloration, blistering, cold cracking and film failure
- No signs of failure at 10 cycles

KCMA Testing (ANSI/KCMA A161.1.1.2000)

Test samples consist of solid red oak coated at 4 mils dry and aged for 21 days at room temperature

A. Chemical Testing

- Vertical position for 24 hrs, water washed, dried, examined

Vinegar	Pass	Lemon Juice	Pass
Orange Juice	Pass	Grape Juice	Pass
Ketchup	Pass	Coffee	Pass
Olive Oil	Pass	100 proof alcohol	Pass
Mustard	Pass		

B. Detergent & Water Resistance Test

- Test panel edge immersed in KCMA detergent solution 24hrs
- Removed, dried and examined
- PASS – no signs of blistering, whitening, delamination, swelling

C. Heat Resistance Test

- Test panel placed in test chamber @ 120F/70% RH for 24hrs
- PASS – no signs of discoloration, whitening, delamination or swelling

D. Hot/Cold Cycle Test

- One cycle consists of 1 hr @ 120F / 30 min room temp / 1 hr - 5F
- PASS – 10 cycles with no signs of discoloration, blistering, cold checking or any film failure

Additional Stain Tests

Testing conducted according to AWI, ASTM & KCMA Standards

- test samples consist of 1 mil dry film on glass
- aged for 21 days at room temperature
- testing was performed by placing 1 milliliter of reagent on the surface of the dry film, under a watch glass for time as noted

Ketchup	24 hrs	5	Windex	24 hrs	5
Palmolive Sol.	16 hrs	5	Mustard	1 hr	4
50% Ethanol	24 hrs	4	Acetone	1 hr	3
4% NaOH	1 hrs	3	Water	24 hrs	5
Olive Oil	24 hrs	5	Boiling Water	16 hrs	5
Tomato Juice	16 hrs	5	Motor Oil	16 hrs	5
2% Ammonia	24 hrs	4	Grease/Oil	16 hrs	5
Nail Polish Rem.	1 hr	5	Lighter Fluid	16 hrs	5
Lemon Juice	24 hrs	5	Vinegar	24 hrs	5
Red Wine	24 hrs	5	1% Tide Sol.	16 hrs	5
Coffee @ 180°F	24 hrs	5			

Rating: 1-poor 2-fair 3-good 4-very good 5-excellent

AWMAC / AWI (NAAWS Performance Standards Testing)

System # 8 Acrylic Self Crosslinking Waterbased:

- Standard Score – 99/135
- AE Series score - 112/135

DISPOSAL - Disposal of chemicals and their solutions should be done according to local, provincial and federal regulations. Product Material Safety Data Sheets are available and should be consulted when handling products. These products are for Industrial and professional use only; Application directions must be followed

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