




AX Series WOODGUARD™ 1K Waterborne Urethane Clear Topcoat

AX Series WOODGUARD™ is a waterborne oil modified urethane. It is a single component, self-crosslinking system that is based on the latest waterborne emulsion technology. It provides a tough, durable finish that exhibits long lasting protection against the effects of mold, mildew, sunlight and moisture, as well as most household chemicals. It contains a broad-spectrum UV absorber that provides long-term protection to light sensitive substrates. AX Series WOODGUARD™ can be used as an interior and exterior finish. It can be used alone or in conjunction with FS1 FIBRESET™ Waterborne Lignin Bonding Sealer.

This product is part of the KCI GREENSTAR™ family of environmentally friendly coatings. See the GREENSTAR™ Eco-Friendly Product Information Sheet for further details.

<p>SUGGESTED APPLICATIONS</p> <ul style="list-style-type: none"> Interior/exterior trim and millwork Interior/exterior furniture Exterior doors Kitchen and bath components <p>KEY PERFORMANCE FEATURES</p> <ul style="list-style-type: none"> Low odour, low VOC Free from HAPs, formaldehyde, and isocyanate Excellent mar and scratch resistance Excellent flow and levelling Outstanding chemical and moisture resistance Self-sealing, easy sanding Fast dry, low odour Conforms to KCMA / ANSI 161.1 Standards Exceeds NAAWS System 12 "Polyurethane, Water Based" Standard <p>RELATED PRODUCTS FS1 FIBRESET™ Waterborne Lignin Bonding Sealer</p> 	<p>PHYSICAL PROPERTIES</p> <table> <tr><td>Available Sheens</td><td>0, 10, 20, 40, 90</td></tr> <tr><td>Weight Solids</td><td>28% ± 2</td></tr> <tr><td>Volume Solids</td><td>27% ± 2</td></tr> <tr><td>Viscosity</td><td>100-150 cps @ 25°C</td></tr> <tr><td>Specific Gravity</td><td>1.0200 ± 0.01 gms/cc @ 25°C</td></tr> <tr><td>VOC</td><td>133 g/l</td></tr> <tr><td>Typical coverage</td><td>8-10 m² / ltr @ 1 mil dry</td></tr> </table> <p>ADDITIONAL CHARACTERISTICS</p> <table> <tr><td>Catalyzation</td><td>Not required</td></tr> <tr><td>Pot-Life</td><td>n/a</td></tr> <tr><td>Reduction</td><td>Max. 3% by volume with water</td></tr> <tr><td>Retarder</td><td>n/a</td></tr> <tr><td>Clean-up</td><td>Water; if deep clean is required, flush equipment with alcohol</td></tr> <tr><td>Shelf-life</td><td>6 months from date of manufacture</td></tr> </table> <p>Dry Times 26°C (~78°F) 50% RH</p> <table> <tr><td>To Touch</td><td>10-20 minutes</td></tr> <tr><td>To Sand</td><td>45-60 minutes</td></tr> <tr><td>To Stack/Pack</td><td>24 hours</td></tr> </table> <p><small>Note: Drying times will decrease at higher temperatures/lower humidity and will increase at lower temperatures/high humidity</small></p>	Available Sheens	0, 10, 20, 40, 90	Weight Solids	28% ± 2	Volume Solids	27% ± 2	Viscosity	100-150 cps @ 25°C	Specific Gravity	1.0200 ± 0.01 gms/cc @ 25°C	VOC	133 g/l	Typical coverage	8-10 m ² / ltr @ 1 mil dry	Catalyzation	Not required	Pot-Life	n/a	Reduction	Max. 3% by volume with water	Retarder	n/a	Clean-up	Water; if deep clean is required, flush equipment with alcohol	Shelf-life	6 months from date of manufacture	To Touch	10-20 minutes	To Sand	45-60 minutes	To Stack/Pack	24 hours
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COATING PREPARATION - Ensure product is stirred well and brought to room temperature before use. AX 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 and should be dried prior to application of sealers or topcoats.

APPLICATION - This product is designed to be applied in ambient conditions of 12-32°C (~55-90°F) and below 50% relative humidity. AX Series topcoats are designed to be used self-sealing. Apply product in full uniform coats ideally applied at a rate of 3-4 mils wet. A normal finishing system consists of 2-3 coats AX Series. 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

steared, silicon carbide sandpaper. It is recommended that the finished item be conditioned for 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 extreme temperatures.

AX Series WOODGUARD™ 1K Waterborne Urethane Clear Topcoat (cont'd)

PERFORMANCE TESTING / FILM CHARACTERISTICS

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

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
Orange Juice	Pass
Ketchup	Pass
Olive Oil	Pass
Mustard	Pass
Lemon Juice	Pass
Grape Juice	Pass
Coffee	Pass
100 Proof Alcohol	Pass

B. Detergent & Water Resistance Test

- PASS: No signs of blistering, whitening, delamination, swelling

C. Heat Resistance Test

- PASS: No signs of discolouration, whitening, delamination or swelling

D. Hot/Cold Cycle Test

- PASS: 10 cycles with no signs of discolouration, blistering, cold cracking or any film failure

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 discolouration, blistering, cold cracking and film failure
- No signs of failure at 10 cycles

Flammability Testing (ASTM E 84-08a) Surface Burn Rating

- Test samples consisted of fiberglass reinforced cement board coated with 4 mils dry of AX Series WOODGUARD™
- Samples were aged for 21 days at room temperature prior to testing
- Flame Spread Index: 5.0 Class 1 / Class A
- Smoke Development: 5.0 Class 1 / Class A

AWMAC / AWI (NAAWS Performance Standards Testing)

System # 12 Polyurethane, Water Based:

- Standard Score – 112/135
- AX Series score - 115/135

Section A: Chemical Resistance Testing ASTM D1308

Vinegar	4	Red Wine	4
Lemon Juice	5	Windex	5
Orange Juice	5	Fantastic 409	4
Ketchup	5	Lysol	4
Coffee	5	33% Sulphuric Acid	3
Olive Oil	5	77% Sulphuric Acid	1
Boiling Water	5	28% Na ₄ OH	4
Cold Water	5	Gasoline	3
Nail Polish Remover	4	Murphy's Oil Soap	3
Household Ammonia	4	Vodka 100% Proof	4
VM&P Naphtha	5	1% Detergent	5
Isopropyl Alcohol	4	10% TSP	5

Rating: 1: Poor 2: Fair 3: Good 4: Very good 5: Excellent

Section B: Wear Resistance / ASTM D4060 Abrasion Resistance

Rating: 4/5

Section C: Cold Check Resistance / ASTM D1211

Rating: 5/5

Section D: Cross Hatch Adhesion / ASTM D3359

Rating: 5/5

TOTAL SCORE: 115/135

DISPOSAL - Disposal of chemicals and their solutions should be done according to local, provincial and federal regulations. 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.

WARRANTY – Katilac Coatings Inc. warrants that its products are free from defects in manufacture for a period of one (1) year from date of purchase, if used prior to expiration date and applied and used in accordance with Katilac Coatings' most current published specifications applicable to such products. Katilac Coatings Inc. expressly disclaims all other warranties, express or implied, including the implied warranties of merchantability and fitness for purpose. Katilac Coatings Inc. disclaims all liability for incidental, consequential or indirect damages of any nature whatsoever. This warranty cannot be changed or modified whether by course of dealing, custom or trade or otherwise, unless agreed to in writing by Katilac Coatings Inc.



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