



PHF Series PINNACLE™ Conversion Varnish

PHF Series PINNACLE™ Conversion Varnish is a solvent borne, water white, HAPs free, two component, alkyd/amino resin based conversion varnish. It is a high clarity topcoat with outstanding chemical, moisture and abrasion resistance. It features exceptional application properties, ultra-low formaldehyde and excellent hardness. It can be used in a self-sealing system or in conjunction with VS4 QUICKSEAL™ Post-Catalyzed Vinyl Modified Sealer.

<p>SUGGESTED APPLICATIONS:</p> <ul style="list-style-type: none"> • Cabinets • Household furniture • Interior trim and millwork • Office furniture • Kitchen and bath components • High demand furniture <p>KEY PERFORMANCE FEATURES</p> <ul style="list-style-type: none"> • Outstanding mar and scratch resistance • Excellent hardness • Ultra-low formaldehyde • Outstanding chemical and moisture resistance • Excellent flow and levelling • Exceeds System #5 Conversion Varnish Standards <p>RELATED PRODUCTS VS4 QUICKSEAL™ Post-Catalyzed Vinyl Modified Sealer B7812 ORACLE™ Premium Wiping Stain Base B7655 ORACLE™ Classic Spray Stain Base B7406 Rich Wiping Stain Base</p>	<p>PHYSICAL PROPERTIES</p> <table> <tr><td>Available Sheens</td><td>5, 15, 25, 40, 90</td></tr> <tr><td>Weight Solids</td><td>53% ± 2</td></tr> <tr><td>Volume Solids</td><td>47% ± 2</td></tr> <tr><td>Viscosity</td><td>30 to 35" @ 25°C Ford 4</td></tr> <tr><td>Specific Gravity</td><td>1.36 ± 0.01 gms/cc @ 25°C</td></tr> <tr><td>VOC</td><td>475 g/l</td></tr> <tr><td>Typical coverage</td><td>10-12 m² / ltr @ 1 mil dry</td></tr> </table> <p>ADDITIONAL CHARACTERISTICS</p> <table> <tr><td>Catalyzation</td><td>10% by volume of HCAT Catalyst or 1CAT Catalyst</td></tr> <tr><td>Pot-Life</td><td>10-12 hrs at room temp.</td></tr> <tr><td>Reduction</td><td>10% by volume T5509 (HAPs Free) or T4409 Lacquer Thinner</td></tr> <tr><td>Retarder</td><td>n/a</td></tr> <tr><td>Clean-up</td><td>CA4420 Gun Wash</td></tr> <tr><td>Shelf-life</td><td>1 year 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 minutes</td></tr> <tr><td>To Sand</td><td>30-60 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	5, 15, 25, 40, 90	Weight Solids	53% ± 2	Volume Solids	47% ± 2	Viscosity	30 to 35" @ 25°C Ford 4	Specific Gravity	1.36 ± 0.01 gms/cc @ 25°C	VOC	475 g/l	Typical coverage	10-12 m ² / ltr @ 1 mil dry	Catalyzation	10% by volume of HCAT Catalyst or 1CAT Catalyst	Pot-Life	10-12 hrs at room temp.	Reduction	10% by volume T5509 (HAPs Free) or T4409 Lacquer Thinner	Retarder	n/a	Clean-up	CA4420 Gun Wash	Shelf-life	1 year from date of manufacture	To Touch	10 minutes	To Sand	30-60 minutes	To Stack/Pack	24 hours
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COATING PREPARATION - Ensure product is stirred well and brought to room temperature before use. Product may be sprayed by conventional, airless and air-assisted airless spray. Add 10% 1CAT Catalyst by volume to unreduced product slowly under agitation. Add up to 10% T4409 Lacquer Thinner to product, agitate. Pot life is 10-12 hours at room temperature.

SURFACE PREPARATION - Wood surface should be clean, dry and free from any oil or grease. 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 dry prior to application of sealer or topcoat. All colour systems should be evaluated for colour fastness and topcoat adhesion prior to application. For best results use Katilac Brand stains, toners and colourant systems. Contact a KCI Representative for specific colour coat recommendations.

APPLICATION - This product is designed to be applied at ambient conditions of 12° to 32° degrees Celsius (55° to 90° F). PHF Series PINNACLE™ can be used self-sealing or in conjunction with VS4 QUICKSEAL™. Apply in full uniform coats

ideally at a rate of 3 to 4 wet mils. Total dry film thickness of coating system (sealer and topcoat) should not exceed 4 mils.

Coating should be thoroughly dried and sanded smooth between coats. Sand with 240 to 320 grit professional silicon carbide paper. It is recommended that the finished item be conditioned at room temperature for 24 hours prior to stacking/packing.

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. Explosion proof ventilation is required with special consideration for enclosed or confined areas. Use caution when handling flammable liquids and eliminate sources of ignition and uncovered containers from the work place. Vapours formed from this product may travel or be moved by air currents and ignited by pilot lights, light switches, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from the product.

PHF Series PINNACLE™ Conversion Varnish (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 PHF series PINNACLE™
- 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 # 5 Conversion Varnish (Clear):

- Standard Score - 129/135
- PHF Series score - 131/135

Section A: Chemical Resistance Testing ASTM D1308

Vinegar	5	Red Wine	5
Lemon Juice	5	Windex	5
Orange Juice	5	Fantastic 409	5
Ketchup	5	Lysol	5
Coffee	5	33% Sulphuric Acid	5
Olive Oil	5	77% Sulphuric Acid	2
Boiling Water	5	28% Na ₄ OH	5
Cold Water	5	Gasoline	5
Nail Polish Remover	5	Murphy's Oil Soap	5
Household Ammonia	5	Vodka 100% Proof	5
VM&P Naphtha	5	1% Detergent	5
Isopropyl Alcohol	5	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: 131/135

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.



Ver10/20 Supersedes all previous versions.
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