



## DHS Series SUMMIT™ Clear Conversion Varnish

The DHS Series SUMMIT™ is a line of solvent borne, two component, alkyd/amino resin based conversion varnishes. They are yellowing resistant topcoats that feature outstanding chemical resistance and exceptional build. They are specifically designed to be intermixed with D9 Series SUMMIT™ White Conversion Varnish to achieve deep or mid-tone colours. DHS SUMMIT™ Clear may also be used as a standalone, high build, post-cat topcoat for high demand furniture and cabinet applications.

<p><b>SUGGESTED APPLICATIONS:</b></p> <ul style="list-style-type: none"> <li>• Cabinets</li> <li>• Household furniture</li> <li>• Interior trim and millwork</li> <li>• Office furniture</li> <li>• Kitchen and bath components</li> <li>• High demand furniture</li> </ul> <p><b>KEY PERFORMANCE FEATURES</b></p> <ul style="list-style-type: none"> <li>• High build</li> <li>• Excellent hardness</li> <li>• Outstanding mar and scratch resistance</li> <li>• Ultra-low formaldehyde</li> <li>• Outstanding chemical and moisture resistance</li> <li>• Excellent flow and levelling</li> <li>• Exceeds NAAWS System #5 Conversion Varnish Standards</li> </ul> <p><b>RELATED PRODUCTS</b></p> <p>D9 Series SUMMIT™ White Conversion Varnish 844 Series Colourants VS4 QUICKSEAL™ Post-Catalyzed Vinyl Modified Sealer B7812 ORACLE™ Premium Wiping Stain Base B7655 ORACLE™ Classic Spray Stain Base</p>	<p><b>PHYSICAL PROPERTIES</b></p> <table> <tr><td>Available Sheens</td><td>5, 15 ,25, 35, 90</td></tr> <tr><td>Weight Solids</td><td>60% ± 2</td></tr> <tr><td>Volume Solids</td><td>52% ± 2</td></tr> <tr><td>Viscosity</td><td>75-80" @ 25°C Ford 4</td></tr> <tr><td>Specific Gravity</td><td>1.0073 ± 0.01 gms/cc @ 25°C</td></tr> <tr><td>VOC</td><td>427 g/l</td></tr> <tr><td>Typical coverage</td><td>10-12 m<sup>2</sup> / ltr @ 1 mil dry</td></tr> </table> <p><b>ADDITIONAL CHARACTERISTICS</b></p> <table> <tr><td>Catalyzation</td><td>10% by volume of 1CAT Catalyst</td></tr> <tr><td>Pot-Life</td><td>10-12 hrs at room temp.</td></tr> <tr><td>Reduction</td><td>20% by volume T5247 High Flow Reducer</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><b>Dry Times</b> 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, 35, 90	Weight Solids	60% ± 2	Volume Solids	52% ± 2	Viscosity	75-80" @ 25°C Ford 4	Specific Gravity	1.0073 ± 0.01 gms/cc @ 25°C	VOC	427 g/l	Typical coverage	10-12 m <sup>2</sup> / ltr @ 1 mil dry	Catalyzation	10% by volume of 1CAT Catalyst	Pot-Life	10-12 hrs at room temp.	Reduction	20% by volume T5247 High Flow Reducer	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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**COLOUR DEVELOPMENT** – DHS Series SUMMIT™ Clear can be mixed in any proportion up to 1:1 with D9 Series SUMMIT™ White Conversion Varnish. Stir all components well before intermixing, tinting or reducing. Tint with 844 Series Colorants up to 10% by vol.

**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 20% T5247 High Flow Reducer 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%. Sand surface smooth with 150-180 grit sandpaper

**APPLICATION** - For easier primer application, seal routed MDF areas with a Katilac post-cat sealer or topcoat. Allow to dry 30-60 minutes at room temperature and sand coated areas with 240-320 grit sand paper. Prime the entire substrate with D28HH DURAPRIME™ at 3-4 wet mils and allow to dry 30-60 minutes and sand entire surface with 240-320 grit sand paper. Apply a full uniform coat of DHS SUMMIT Clear / D9 SUMMIT White

intermixed topcoat at a rate of 4 to 5 mils wet. Dry for 1-2 hours at room temperature and sand the entire surface with 240-320 grit sand paper. Apply a second thin coat at 3 to 4 wet mils. Proper sanding is critical to produce a smooth finish and promote adhesion between the primer coat and the topcoat. Total film thickness of the finished system (primer and topcoat) should not exceed 5 dry mils.

When using DHS Series SUMMIT™ as a stand-alone clear topcoat, seal substrate with a KCI post-cat sealer and apply 1 or 2 coats DHS, sanding in between coats, 3-4 wet mils per coat. Do not exceed 5 dry mils for the complete system (sealer/topcoat).

**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.

## DHS Series SUMMIT™ Clear 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 DHS Series
- 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
- DHS Series score - 130/135

#### 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	1
Boiling Water	5	28% Na <sub>4</sub> 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: 130/135**

**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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