



PRODUCT DATA SHEET

Gem Clear[®] Conversion Varnish

550-0013 Gloss (90°+) 550-0015 Satin (30°)
 550-0014 Semi-Gloss (50°) 550-0029 Flat (10°)

DESCRIPTION	CHARACTERISTICS	SPECIFICATIONS
<p>Gem Clear Conversion Varnish is a high performance, water clear, non-yellowing catalyzed varnish, with a proven track record in industrial use for high quality cabinets, furniture and fixtures. This varnish can be applied over stained or natural wood as a self-sealing system or over a high quality vinyl sealer. If a separate sealer is used, we recommend 210-0008 Gem Seal Conversion Sealer. Gem Clear addresses environmental and safety concerns by its low HAPs and VOC formulations. This product meets all of the pertinent government regulations regarding emissions and exceeds the performance parameters outlined by KCMA and ASTM.</p> <p>Product Advantages:</p> <ul style="list-style-type: none"> ➤ HAPs & AIM Compliant ➤ Ultra Low Formaldehyde ➤ Outstanding Chemical Resistance ➤ Excellent Mar Resistance ➤ Resists Yellowing ➤ Water Clear ➤ Self-Sealing ➤ High Build With Fewer Coats ➤ Catalyst Supplied in Pre-Measured Containers ➤ AWI TR-4 When Applied Self-Sealing ➤ AWI TR-5 When Applied Over Gem Seal Conversion Sealer ➤ Exceeds KCMA and ASTM When Applied to Manufacturer's Specifications. 	<p>Viscosity: 16" #4 Ford</p> <p>Weight Solids: 41-42%</p> <p>Volume Solids: 32%</p> <p>Weight/Gallon: 7.75-7.82 lbs</p> <p>Film Hardness: HB Overnight</p> <p>VOC (Reg/Coating): 4.56-4.58 lb/gl or 545-548 g/l</p> <p>VOC (Act/Material): 4.55-4.58 lb/gl or 545-548 g/l</p> <p>HAPs: .1605-.1664</p> <p>Catalyst: 4.4 oz of C7302 per gallon.</p> <p>Coverage: 521 Sq. Ft. per gallon at one mil dry film thickness</p> <p>Dry Time: Air Dry: at 78°, relative humidity 50%; To Touch: 10-15 minutes; To Handle: 15-30 minutes; To Sand/Recoat: 15-30 minutes. Relative humidity will affect the speed of drying. Ideal conditions are 75° or warmer at 50% humidity or less. Dry time will be faster at higher temperatures and lower humidities, and equally slower at colder temperatures and higher humidities.</p> <p>Pot Life: 48 hours @ 77° F in a sealed container.</p> <p>Shelf Life: 12 months if unopened and stored in a cool dry area. Always rotate stock.</p> <p><i>Note: These numbers represent actual control values on a smooth, sanded substrate. Spray techniques, texture, and sealing as well as film thickness may give different results on actual work, but they may be used for comparison. To the best of our knowledge, the above technical data is true and accurate at the date of issuance but is subject to change without prior notice.</i></p>	<p>Surface Preparation: New wood: Remove any dirt, grease, glue or other contaminants and sand wood as required. Moisture content of wood should be 7-9%. Old wood: Strip old finishes completely and remove all contaminants from the surface. Make sure the surface is dry, sand as required. Finish as new work.</p> <p>Material Preparation: Catalyze Gem Clear Conversion Varnish with pre-packaged catalyst kit in a stainless steel or plastic lined container. Mix or agitate thoroughly before use. Reduction may be required for certain types of application. Xylene or Toluene may be used for reduction. If used in an area where HAPS is an issue use SOL-9011 HAPS free thinner. If a slower dry time is desired, use only SOL-9012 Haps Free Retarder.</p> <p>Application: Gem Clear Conversion Varnish is designed for spray application. Temperature will affect viscosity. All products are designed to achieve the highest possible solids content at a viscosity low enough to allow proper spray atomization without the addition of costly chemical solvents. It is recommended that this product be applied 3-4 wet mils per coat with a maximum of three coats for the total coating system. It may be applied as a self-sealing system or a high quality conversion sealer, such as 210-0008, may be used as the first coat. Maximum dry film thickness should not exceed four mils.</p> <p>Clean Up: Use #500 Gem Coat Lacquer Thinner or SOL-9011 HAPs Free Thinner to clean all equipment. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.</p>

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CAUTION: DANGER! FLAMMABLE! VAPORS MAY CAUSE FLASH FIRE. VAPOR HARMFUL. HARMFUL OR FATAL IF SWALLOWED. INJURIOUS TO EYES. KEEP OUT OF THE REACH OF CHILDREN! BEFORE using this product it is essential that the "Material Safety Data Sheet" describing the product as well as the "Product Label" be reviewed. If your company does not have such information or has any questions, contact the manufacturer.

Date: Oct.-06

Product Performance:

The **KCMA (Kitchen Cabinet Manufacturers Association)** test was conducted with the test panel in a vertical position. Each test panel was prepared as specified in the application instructions above. 3cc's of each chemical were placed on the coated surface and allowed to remain there for a period of 24 hours, with the exception of mustard, which was removed from the panel after one hour.

The **ASTM (American Society for Testing Materials)** test was conducted with the test panel in a horizontal position. Each test panel was coated as specified in the application instructions above. 3cc's of each chemical were placed on the coated surface and contained there by the use of a watch glass for a period of sixteen hours unless otherwise indicated.

The **AWI (Architectural Woodwork Institute) Chemical Resistance Test** is conducted by containing the test panel in a horizontal position while applying 1 milliliter of various chemicals to the surface of the coating. Each chemical is maintained at its respective location on the panel by the use of a watch glass. All chemicals are allowed to remain in contact with the coating surface for a period of 16 hours unless otherwise indicated.

Each chemical is then evaluated for its impact upon the coated surface, which includes such parameters as loss of gloss, discoloration, blistering, and delamination. The chemicals used and their respective effects upon the coating are as follows:

	KCMA Test		ASTM Test		AWI Test	
	Initial Results	Final Results	Initial Results	Final Results	Initial Results	Final Results
Catsup	No Damage	No Damage	No Damage	No Damage	N/A	N/A
Vinegar	No Damage	No Damage	No Damage	No Damage	N/A	N/A
Alcohol	No Damage	No Damage	No Damage	No Damage	N/A	N/A
Olive Oil	No Damage	No Damage	No Damage	No Damage	No Damage	No Damage
2% Ammonia	No Damage	No Damage	No Damage	No Damage	N/A	N/A
Lemon Juice	No Damage	No Damage	No Damage	No Damage	No Damage	No Damage
Coffee	No Damage	No Damage	No Damage	No Damage	No Damage	No Damage
Mustard	No Damage	No Damage	No Damage	No Damage	No Damage	No Damage
Water	No Damage	No Damage	No Damage	No Damage	N/A	N/A
Motor Oil	N/A	N/A	No Damage	No Damage	N/A	N/A
Lighter Fluid	N/A	N/A	No Damage	No Damage	N/A	N/A
1% Palmolive Solution	N/A	N/A	No Damage	No Damage	No Damage	No Damage
1% Tide Solution	N/A	N/A	No Damage	No Damage	N/A	N/A
4% Sodium Hydroxide	N/A	N/A	N/A	N/A	No Damage @ 1 hour	No Damage
10% Sodium Hydroxide	N/A	N/A	N/A	N/A	No Damage @ 1 hour	No Damage
28% Ammonia	N/A	N/A	N/A	N/A	No Damage	No Damage
10% Sodium Phosphate	N/A	N/A	N/A	N/A	No Damage	No Damage
95% Ethyl Alcohol	N/A	N/A	N/A	N/A	No Damage	No Damage
Tomato Juice	N/A	N/A	N/A	N/A	No Damage	No Damage
50% Sulfuric Acid	N/A	N/A	N/A	N/A	No Damage @ 1 hour	No Damage
Nail Polish Remover	N/A	N/A	N/A	N/A	No Damage	No Damage
Glacial Acetic Acid	N/A	N/A	N/A	N/A	No Damage @ 1 hour	No Damage

KCMA 9.2 Hot and Cold Check Resistance Test:

All panels passed 21 cold check cycles (cycling from 120 °F. to -5°F. and 70% Relative Humidity to zero Relative Humidity).

KCMA 10.0 Detergent Water Resistance Test:

Passes 24 hours