Industrial Wood Coatings CC-F70

SHER-WOOD® KEMVAR® *Plus* Conversion Varnish

Gloss White..... H66W51
Mid Gloss White……..H66W52
Low Gloss White……...H66W53
Custom Blend……....H66PX Series
Low Gloss Blending Clear.....H66F55
Gloss Blending Clear……H66V54
Low Gloss Black……H66B56

See Mixing Ratio for Catalyst Options

DESCRIPTION

SHER-WOOD® KEMVAR® Plus Conversion Varnish is a high solids catalyzed wood finishing system with full hiding opaque colors. It offers superior quality for furniture, cabinets and other interior wood products.

Advantages:

- Meets the Federal HAPS rule for wood finishes as packaged**
- Available in a broad range of colors
- Can be applied by conventional, airless, air assisted airless or HVLP
- Meets KCMA test requirements when used over the E63W80 series surfacer
- High solids and build
- Good non-yellowing properties
- Excellent toughness and mar resistance
- Excellent moisture resistance
- Excellent resistance to household chemicals
- Suitable for solid hardwood and softwood, particle board, medium density fibreboard and veneers. KemVar 80 Series Pigmented CV Primer (E63W80 series) may be required to fill the substrate
- White and clears can be blended in all proportions

VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations.

An Environmental Data Sheet is available from your local Sherwin-Williams facility, or at www.paintdocs.com.

Air Quality Data (Theoretical):

- Photochemically reactive
- Volatile Organic Compounds (VOC) 3.1 lb/gal, 367 g/L
- Catalyzed 6.2% with V66V21 then reduced 45-55% with R7K310, maximum 4.46 lb/gal 535 g/L
- Volatile Hazardous Air Pollutants (VHAPS) as packaged, maximum less than 0.8 lbs per pound of solids

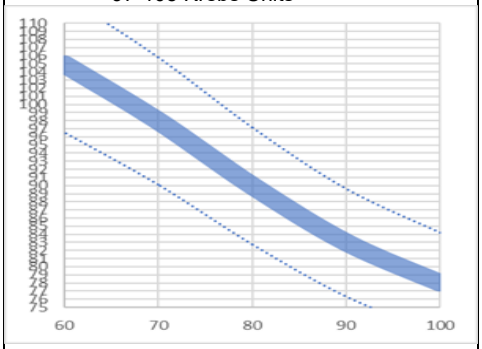
**National Standards for Hazardous Air Pollutants (HAPS) Emissions for Wood Furniture Manufacturing Operations CFR40, Part 63, Subpart JJ

CHARACTERISTICS

Gloss: Gloss 82-88 units
Mid Gloss 47-53 units
Low Gloss 13-18 units

Volume Solids: 60 ± 2%
May vary by color

Package Viscosity:
97-105 Krebs Units



The above chart is for information only and should not be used as product specifications

Recommended film thickness:
Mils Wet 3.0 - 5.0
Mils Dry 1.2 - 2.0

Spreading Rate (no application loss)
catalyzed and reduced 50%
321-535 sq ft/gal @ 1.2-2.0 mils DFT

Drying (1.5 mils, 77°F, 50% RH):
To Touch: 10-15 minutes
To Handle: 20-30 minutes
To Sand: 45-60 minutes
To Recoat: 45-60 minutes
Force Dry: 30 minutes at 110° F
or 10 minutes at 150° F

Flash Point: 50-56°F PMCC

Package Life: 24 months, unopened

Mixing Ratio:
Catalyze
1 part Conversion Varnish
6.2% (8 oz/gal) V66V21 (by volume)
Or
Or
20% (25.6 oz/gal) V66V20005
V66V20006
V66V20007
(by volume)

Reduce 45-55% with R7K310

Pot Life: 24 hours

SPECIFICATIONS

Surface preparation
Wood - New Work (interior only):

Must be clean, dry, and finish sanded. Substrate should be free of grease, oil, dirt, fingerprints, and any contamination to ensure optimum adhesion and coating performance properties.
Moisture content of wood should be 6 to 8%.

Previously finished wood (interior only):

Strip old finishes completely and remove all contaminants from the surface. Make sure surface is dry. Finish as new work

Testing: The information, data, and recommendations set forth in this Product Data Sheet are based upon test results believed to be reliable. However, due to the wide variety of substrates, substrate properties, surface preparation methods, equipment and tools, application methods, and environments, the customer should test the complete system for adhesion, compatibility and performance prior to full scale application.

Household Chemical Tests (KCMA test):
Three milliliters of each item were placed on the vertical surface for 24 hours. The surface was then washed and dried per the specification.
Vinegar ..... no visual effect
Orange Juice ..... no visual effect
Lemon Juice ..... no visual effect
Grape Juice ..... no visual effect
Tomato Catsup ..... no visual effect
Coffee ..... no visual effect
Olive Oil ..... no visual effect
100 Proof Alcohol ..... no visual effect
Mustard - 1 hour ..... slight stain recovers in 72 hours of indirect sunlight
Detergent/Water ..... no visual effect
Boiling Water ..... no visual effect
Butter ..... no visual effect

Moisture Resistance (KCMA test):
Pass 24 hours edge immersion in water/detergent solution at room temperature.
Boiling Water Test: ..... Pass
Print Resistance ..... No print
Pigmented Varnish was air dried for 24 hours at room temperature (77°F) on maple at 3.0 mils dry film. Tested for 18 hours at 77°F at 1 psi in direct contact with 8 ounce duck cloth.

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APPLICATION

Typical Setups

Reduce 45-55% with R7K310 - Sher-Wood KemVar Solvent.

Example: Reduction with 50% R7K310 provides a ready to spray topcoat with these listed characteristics:
For example Low Gloss White H66W53:
Weight Solids: 55.8%
Volume Solids: 39.5%
Viscosity #2 Zahn: 18-22 sec.
VOC per gal: 4.16 lb/gal, 499 gm/l

Conventional Spray:
Air Pressure .....40-50 psi
Fluid Pressure..... 6-8 psi
Airless Spray:
Pressure ..... 1200-1800 psi
Tip..... .011-.015"
Air Assisted Airless:
Fluid Pressure..... 600-700 psi
Cap/Tip ..... .011-.015"
HVLP:
Air Pressure ..... 9 psi
Fluid Pressure..... 5-10 psi
Tip..... .047

Cleanup:
Clean tools/equipment immediately after use with HAPS Compliant Lacquer Thinner R7K320. Lacquer Thinner R7K120 or R7K22 may also be used, but are not HAPS compliant.

Follow manufacturer's safety recommendations when using any solvent.

SPECIFICATIONS

Product Limitations:
- Sher-Wood KemVar Plus Conversion Varnish must be catalyzed 6.2% by volume with KemVar Catalyst V66V21 for cure. Do not over-catalyze. Higher catalyst levels may cause cracking over time. Higher catalyst levels affect crosslinking rates and film properties.
- Must catalyze and reduce to spray.
- Temperatures must be above 70°F during application and cure to ensure acceptable coating properties. Coatings cured at lower temperatures are prone to cracking, checking, and brittleness. Do not pack or stack finished parts with less than the dry time listed below:

Board Surface Temperature	Time
150°F	10 minutes
or 120°F	30 minutes
or 70°F	24 hours

(continued in next column)

SPECIFICATIONS

Product Limitations Continued:
- If a primer surfacer is needed, use E63W80 KemVar 80 Pigmented CV Primer series
- Do not apply over nitrocellulose lacquer sealers, as they may cause wrinkling or long-term checking or cracking.
- Gloss Blending Clear or Low Gloss Blending Clear are intended for custom blending. They are not recommended as clear topcoats. For a clear over white varnish, Sher-Wood Water White Conversion Varnish (V84V80 series) is recommended because of its resistance to yellowing.
- Catalysts V66V20005, V66V20006 and V66V20007 are acids.

To prevent acid corrosion and pitting, all equipment should be made of stainless steel. Containers and piping should be stainless steel or plastic. Acid reacting with iron or steel will cause a discoloration of conversion varnish
- Maximum film thickness of the total system (including Surfacer) must not exceed 7 mils dry film because heavier films may cause cracking.
- Do not use in recirculating systems such as flowcoaters or curtain coaters because of accelerated cure due to aeration. Recirculating paint lines are okay.
- Working pot life is 24 hours maximum at 77°F. While catalyzed varnish remains a low viscosity liquid beyond 24 hours, it should not be used beyond pot life because a chemical reaction is taking place. The resultant film may have inferior cure and crosslinking and a tendency for long term cold checking. At higher temperatures working pot life is much shorter.
- To maintain HAPS compliance only reduce with HAPS compliant reducers.
- To extend the pot life at the end of the day, add 300-400% of uncatalyzed material. Add catalyst based only on the uncatalyzed portion when ready to use the next day. Refrigeration extends the working pot life.
- Do not blend Sher-Wood KemVar Plus Conversion Varnish with other conversion varnish qualities because it will dramatically reduce performance with cracking and checking problems.
- Maximum colorant level is 6 ounces per gallon with Phoenix®, OptiColor® XP or GIS colorants. Exceeding 6 ounces of colorant may cause colorant float and may extend dry times.
- Do not exceed 2.0 mils dry film per coat because heavy wet films may cause film surface imperfections and slow dry time.
- For full sharp gloss appearance, sand intermediate coats with very fine (400-600) grit paper to prevent telegraphing of sand marks.
- For interior use only.

CAUTIONS

FOR INDUSTRIAL SHOP APPLICATION ONLY

Thoroughly review product label and Safety Data Sheet (SDS) for safety information and cautions prior to using this product.

To obtain the most current version of the Environmental Data Sheet (EDS), Product Data Sheet (PDS), or Safety Data Sheet (SDS) please visit your local Sherwin-Williams facility or www.paintdocs.com.

Please direct any questions or comments to your local Sherwin-Williams facility.