

BATCH MIX ALIPHATIC PROTECTIVE COATING

■ **Description**

VFI-251 is a 2 to 1 batch mixed, medium viscosity, aliphatic polyurea hybrid coating that can be sprayed with a conventional airless sprayer. This product sprays and handles as easily as a single component product. With its long pot life and fast cure, it can be sprayed up to 40 mils per coat and still be cured in 2-3 hours with great physical properties that match plural component products. VFI-251 is UV color stable and is a highly reflective coating that is registered with Cool Roof.

■ **Usage**

VFI-251 can be used as a UV stable top coat on an aromatic basecoat or applied alone as a single system. Substrates include but are not limited to; foam, metal, single-ply, wood, smooth asphalt and modified bitumen.

■ **Color**

White and clear. Contact your VFI representative for additional custom color options.

Physical Properties

■ **Hardness**

ASTM D-2240
Shore A 80 ± 2

■ **Tensile Properties**

Strength: 4171 psi
Elongation: 393%
Elastic Modulus: 2245 psi
Yield Strength: 4132 psi

■ **Tear Strength**

ASTM D-624: 317 pli

■ **Solid Material Density**

67.82 PCF

■ **Cold Temperature Flexibility**

ASTM D-3111
Pass 0.25 inch mandrel @-8°F

■ **Adhesion**

ASTM D-4541
Strength: 500lbs / in.² with cohesive failure

Weather & Environmental Performance

■ **Cool Roof Test Results**

Solar Reflectance: (SR) 0.87
Thermal Emittance: (TE) 0.89

■ **Service Temperature**

-50°F to 180°F

■ **Weatherability QUV Test Data**

ASTM G-53
15 years with no visible deterioration or change in physical properties.

■ **Fire Resistance**

None

■ **Hydrolytic Properties**

■ **Water absorption**

ASTM D-471
24 hours at room temp. 70°F 1.16% max

■ **Water Vapor Permeability**

ASTM E-96
0% R.H. @ 73°F 15 mil film: 2.76 perms

■ **Chemical Resistance**

Good hydrolytic stability to 180°F. Good resistance to inorganic bases, acids and hydrocarbon solvents. Fair resistance to oxygenated and chlorinated solvents.

Liquid Component Properties

■ **Mix Ratio**

Volume: 2 Iso to 1 Poly
Weight: 1.4 pts Iso to 1pt Poly

■ **Coverage or Yield**

852 mil square feet per gallon

- **Solids:** White, colors may vary.
 Weight: A side 65.01%-B side 59.34%
 Volume: A side 61.66%-B side 36.49%
 Mixed Volume Solids: 53.27%
- **Viscosity**
 White, colors may vary
 Poly Component: 20,000 cps @ 77°F
 Iso Component: 860 cps @ 77°F
 Mixed: 0–22 minutes, 800-900 cps @ 77°F
- **Liquid Density & Specific Gravity**
 Poly Component: 11.29 lbs/gal (SG 1.355g/ml)
 (White) Colors may vary
 Iso Component: 7.92 lbs/gal (SG 0.951g/ml)
- **VOC's**
 Mixed product contains: 3.38 lb/gal or 405 g/l
- **Flash Point**
 ASTM D-56 (TCC) Greater than 78.8 °F
- **Toxicity**
 Iso component contains aliphatic Isocyanate requiring fresh air supply respirator, gloves and protective clothing during application.
- **Storage Stability or Shelf Life**
 Poly side 12 months in unopened containers @ 50° - 90°F.
 ISO side 6 months in unopened containers @ 50° - 90°F.
- **Reactivity**
 - **Pot Life:** 4 hours
 - **Sprayed Tack Free:** 2 to 3 hours
 - **Cured:** 24-48 hours @ 70°F/ low humidity, higher humidity will speed up the cure, low humidity will slow down the cure.
 - **Recoat Time:** 1 Week

Application

- **Equipment**
 This product can be sprayed out of a conventional airless sprayer, also by roller and brush.
- **Surface Preparation**
 Refer to the VFI Roofing Specifications relating to your specific project.
- **Mixing**
 Poly (B side) **must** be pre mixed before using. Pour the Poly side (1pt. Poly) into the Iso side (2 pts Iso) by volume and mix completely before using. Mechanical mixing is required for quantities larger than 1 gallon. Contact your VFI representative for specific mixer requirements.
- **Primers**
 See specific specification for your substrate.
- **Thickness Limitations**
 This product can be sprayed up to 40 mils per coat in one pass. Applying more than 40 mils may cause blistering and solvent popping.
- **Clean-up Solvent**
 Xylene, MEK, and for reduced fire hazard use glycol ethers or environmentally acceptable chlorinated solvents.
- **Limitations**
 No rain for 6 hours @ 70°F/ 50% humidity. Contact your VFI representative for appropriateness of this product for your specific application.
- **Thinning**
 10% maximum, Xylene, other aromatic solvents, Ketone and esters are suitable as long as they are dry.
- **Packaging**
 3 gallon kit
 6 gallon kit
 15 gallon kit

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