VOLATILEFREE INC®
MANUFACTURERS OF HIGH PERFORMANCE POLYMERS

Sustainability
Durability
Flexibility

VFI-3140 60 SHORE D POLYUREA SPRAY ELASTOMER SYSTEM

- **Description**
  VFI-3140 is a 100% solids, spray applied, aromatic polyurea, elastomeric polymer. It is characterized by high hardness and tensile strength with good elongation, good chemical and solvent resistance, and usability under wide climatic conditions with outstanding durability. Both components are low viscosity fluids, which react very quickly to form a tough polymer when mixed and applied using heated, plural component airless spray equipment.

- **Usage**
  VFI-3140 is primarily used as a structural coating. Also used as a protective coating on steel structures or tanks for corrosion control. Can be used as a material liner if pre-approved by VFI's technical department. Please contact your VFI representative for application specifications.

- **Color:** Standard color is Cream.

Physical Properties

- **Hardness**

Shore D	60-65

- **Tensile Properties**

Strength	3500 psi
Elongation	360%
Elastic Modulus	20000 psi
Permanent Set	10% max

- **Tear Strength**
  600 pli

- **Solid Material Density**
  71.65 lb/ft^3

- **Cold Temperature Flexibility**
  Mandrel Bend Test
  Passed 0.25 inch mandrel bend test @ 8° F

- **Adhesion**
  Excellent adhesion to concrete and plastic.
  Real values depend on primer or substrate.

Weather & Environmental Performance

- **Service Temperature**
  -40°F to 250°F

- **Weatherability QUV Test Data**
  ASTM G-53
  No cracking, checking or loss of integrity after 2000 hours. Light colors yellow when exposed to UV light.

- **Chemical Resistance**
  Contact your VFI representative with chemical information for verification of compatibility.

- **Hydrolytic Properties**
  - **Water absorption**
    24 hours at room temp <1.00 %
  - **Water Vapor Permeability**
    0% R.H. @ 73°F 35 mil film 1.25 perms

Liquid Component Properties

- **Ratio**

Volume	1 to 1

- **Viscosity**

Poly Component:	980 cps @ 77°F
ISO Component:	600 cps @ 77°F

- **Solids**
  Weight: 100%
  Volume: 100%
- **Liquid Material Density & Specific Gravity**
  Poly Component: 9.55 lbs/gal
  ISO Component: 9.60 lbs/gal
- **Toxicity**
  A side ISO component handling requires fresh air respirator, gloves, eye protection 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**
  - **Gel Time:** 5-10 seconds
  - **Tack Free:** 10-20 seconds
  - **Recoat Time:** Up to 4 hours
  - **Cure Time:** Full Cure in 3 days
  - **Place Into Service:** 4 hours for light duty use, 24 hours for full service

Application

- **Equipment**
  VFI-3140 requires hot airless plural component equipment capable of producing a minimum spray pressure of 2000 psi and heat to 140°F to 160°F. Higher pressures between 2000-3000 psi may provide better mixing with optimal physical properties for the end product. Contact your VFI representative for specific spray gun recommendations.
- **Material Preparation**
  The product must be over 70˚ F for proper mixing and application.
- **Mixing**
  Proper mixing equipment must be used to mix the Poly (B) side. Mix for 10-15 minutes @77˚F at low rpm before using. Please contact your VFI representative for specific mixer recommendations.
- **Primers**
  Sealing porous surfaces with VFI-1007 is recommended. VFI #11 Epoxy Primer is recommended for cementitious and masonry surfaces where enhanced adhesion is needed. VFI-1003 Primer is recommended for maximum adhesion to blasted steel surfaces. Please contact your VFI representative for more specific preparation recommendations.
- **Substrate Preparation**
  All surfaces must be free of contaminants and be able to provide mechanical adhesion on a solid substrate. Steel should be white blasted per SSPC-SP10/NACE 2-3 mil. Sandblast or shotblast all concrete surfaces to achieve a profile equal to 80-100 grit sand paper. Refer to SP13/NACE 6.
- **Clean-up Solvent**
  Xylene, MEK. For reduced fire hazard use glycol ethers or environmentally acceptable chlorinated solvents.
- **Limitations**
  Please contact VFI representative for further technical information for your specific application.
- **Precautions**
  See Material Safety Data Sheet for complete safety data. Protect from exposure to moisture. Water will cause the “A” component (ISO) to generate carbon dioxide with resulting high pressure in closed containers.
- **Thinning**
  Not Recommended
- **Packaging**
  5 gallon pails
  5 gallon ponies
  55 gallon drums
  270 gallon totes