



VFI-205 POLYUREA SPRAY ELASTOMER SYSTEM

Overview

- **Description**
 VFI-205 is a 100% solids, spray applied, aromatic pure polyurea elastomeric polymer. It is characterized by high elongation, low modulus, good chemical and solvent resistance, and usability under wide climatic conditions with outstanding durability. It is composed of isocyanate prepolymers, which are reacted with amine prepolymers, to form a polyurea elastomer. 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-205 is primarily used as a wear and waterproofing membrane over concrete and geotextiles. Also used as a protective coating on steel structures or tanks for corrosion control. Can be used as a tank liner if, pre-approved by VFI's technical department. Please contact your VFI representative for application specifications.
- **Color**
 Standard color is black. Custom colors are available but lighter colors may change with UV exposure.

Physical Properties

- **Hardness**

Shore A	89 - 91
Shore D	39 - 43
- **Tensile Properties**

Strength	2643 psi
Elongation	645% min
Elastic Modulus	2795 psi
Yield Strength	367 psi
Permanent Set	30% max
- **Tear Strength**

	308 pli
--	---------
- **Electrical Volume Resistivity**
 ASTM D257-07 (Ohm-cm) 5.54 x 10¹¹
- **Electrical Surface Resistivity**
 ASTM D 257-07 (Ohm/mm²) 1.53 x 10¹⁴
- **Solid Material Density**
 64.80 lb/ft³
- **Abrasion Resistance**
 Taber Abraser, 1 Kg load, 1000 cycles CS-17 wheel. 2 mg loss
- **Cold Temperature Flexibility**
 Mandrel Bend Test
 Passed 0.25 inch mandrel bend test @ 8° F
- **Adhesion**
 Prepared and primed concrete >725 lbs/in² with concrete failure

Weather & Environmental Performance

- **Service Temperature**
 -40°F to 180°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 temperature 01.5%
 - **Water Vapor Permeability**
 0% R.H. @ 73°F 35 mil film 1.65 perms
- **Fire Resistance** Not rated

Liquid Component Properties

- **Ratio**
Volume 1 to 1
 - **Coverage**
mil/sq/ft/gal 1600
 - **Solids**
Weight: 100%
Volume: 100%
 - **Viscosity**
"A" side: 396 cps @ 77°F
"B" side: 888 cps @ 77°F
 - **Liquid Material Density & Specific Gravity**
"A" side: 8.93 lbs/gal (SG 1.072 g/ml)
Depending upon color
"B" side: (black) 8.35 lbs/gal (SG 1.002g/ml)
 - **VOC's**
Contains no Volatile Organic Compounds
 - **Toxicity**
ISO component contains polymeric Isocyanate requiring fresh air respirator, gloves, eye protection and protective clothing during application.
 - **Storage Stability or Shelf Life**
"A" side 6 months in unopened containers @ 50-90°F.
"B" side 12 months in unopened containers @ 50-90°F.
 - **Reactivity**
 - **Gel Time:** 3-5 seconds
 - **Tack Free:** 20-30 seconds
 - **Recoat Time:** Up to 4 hours
 - **Cure Time:** 48 – 72 hours
 - **Place Into Service:** 8 hours for light duty use, 48 hours for full service
-

Application

- **Equipment**
VFI-205 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 to 2500 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 15 minutes @77°F 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 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
 - 15 gallon ponies
 - 55 gallon drums
 - 270 gallon totes

For more information, contact us today at **800-307-9218**

Corporate Office: P.O. Box 344 • Brookfield, WI 53008 • (800) 307-9218 • (262) 787-0400 • Fax (262) 787-0500 • www.volatilefree.com

This information and technical advice provided herein are believed to be reliable and accurate to the best knowledge of Volatile Free, Inc., as based on tests and should serve only as a recommendation. As the manufacturer, Volatile Free, Inc. makes no representations or warranties of any kind, expressed, implied or statutory, including but not limited to all implied warranties of merchantability or fitness for use or a particular purpose, or any other matter with respect to this product. Volatile Free, Inc. makes no representations or warranties as to the results of the use of the product and assumes no obligation or liability in connection therewith. Volatile Free, Inc. is not liable for any special, exemplary, punitive, incidental or consequential damages of any sort or kind from use of this product. The information provided herein is subject to change at any time without notice. Information changes may include, but are not limited to, commercial and technical changes, changes in pricing, physical characteristics and packaging.