VOLATILEFREE INC™
MANUFACTURERS OF HIGH PERFORMANCE POLYMERS

Data Sheet
VFI-345

ALIPHATIC POLYUREA SPRAY ELASTOMER SYSTEM

Description
VFI-345 is a high performance aliphatic polyurea elasto-plastic polymer. It is characterized by high tensile and tear properties, outstanding durability, gloss and color retention. it is composed of aliphatic Isocyanate quasi-prepolymers which are reacted with amine prepolymers to form polyurea elastomer .Both components are low viscosity fluids which react very quickly to for a tough polymer when mixed and applied using a hot plural component airless spray equipment. Meets the requirements for USDA incidental food contact.

Usage
Some applicable uses would include the following:

- Lining of interior truck beds, truck bodies and undercoating to provide corrosion protection, resistance to abrasion, skid resistance and to improve appearance.
- Wood decks and concrete floors.
- Sanitary coatings for lining meat, poultry and other food processing facilities.
- Waterproofing for exterior block and concrete surfaces, with excellent color stability.

Color
Standard colors are white, dark gray, red, brown, green, and blue, safety yellow, eggshell and black. Contact Volatile Free, Inc. for information on custom colors

Physical Properties

Hardness
ASTM D-2240 — 68 D

Tensile Properties
ASTM D-412

Strength:	2897 psi min.
Elongation:	55%
Permanent Set:	10% max

Tear Resistance
ASTM D-6241 — 581 pli

Cold Temperature Flexibility
ASTM D-31111
1 inch mandrel @ -40°F — Pass

Weather & Environmental Performance

Service Temperature
-50° to 180°F

Weatherability QUV Test Data
ASTM G-53
No significant color change, loss of gloss, cracking, checking or loss of integrity after 2000 hours.

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

Ratio
Volume: 1 to 1

Coverage or Yield
1600 mil square feet per gallon.

Solids
100%

Flash Point
ASTM D-56 (TCC)
Greater than 200°F

Viscosity
Colors will vary

“A” side	1600-2600 cps @ 77°F
“B” side (white)	500-700 cps @ 77°F

- **Liquid Material Density & Specific Gravity**
  "A" side 9.20 lbs/gal. (SG 1.104 g/ml)
  "B" side 10.60 lbs/gal (SG 1.273 g/ml) (white)
- **VOC**
  Conforms to all air pollution regulations.
  Contains no Volatile Organic Compounds.
- **Thinner**
  Not recommended
- **Toxicity**
  ISO component contains aliphatic polymeric isocyanate requiring fresh air supply respirator, gloves and protective clothing during application.
- **Storage Stability or Shelf Life**
  "A" side 6 months in unopened containers @ 60°F-90°F
  "B" side 12 months in unopened containers @ 60°F-90°
- **Reactivity**
  - **Gel Time:** 10-15 seconds
  - **Tack Free:** 4-10 minutes
  - **Cure Time:** Full cure in 24 days. Recoatable for up to 4 hours

Application

- **Equipment**
  VFI-345 requires hot airless plural component equipment capable of producing a minimum of 2500 psi and heat to 140°F. Self purging impingement mixing spray guns are required. Contact Volatile Free, Inc. for more specific spray gun recommendations.
- **Material Preparation**
  The product should be over 70°F for proper mixing and application.
- **Mixing**
  Proper mixing equipment must be used. A hand mixer is not adequate. Mix for 15 minutes @ 77°F before using. Contact Volatile Free, Inc. for specific mixer recommendations
- **Primers**
  Self-priming with proper preparation on most surfaces. Please contact Volatile Free, Inc. for more specific preparation recommendations.
- **Clean-up Solvent**
  Toluene, Xylene, M.E.K. For reduced fire hazard use glycol ethers or environmentally acceptable chlorinated solvents.
- **Limitations**
  Contact your VFI representative for appropriateness of this product 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.
- **Packaging**
  5 gallon pails
  15 gallon ponies
  55 gallon drums
  270 gallon totes

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