

## OPEN MOLDING STRUCTURAL PLASTIC

### ■ Description

VFI-2513 is a two component, 100% solids, one to one by volume, fast set polyurea hybrid structural coating.

### ■ Usage

VFI-2513 is intended for use as a plural component spray applied coating for a variety of applications including but not limited to the following:

- Chiefly used as the structural plastic in open molding operations.

- Structural plastic for use in any part fabrications where superior impact resistance is required while maintaining high hardness and modulus.
- May be used in encapsulant type applications in which higher heat distortion and impact are required.
- Aromatic base coat used to provide a continuous surface for porous wood constructs.

### ■ Color

Neutral, Black, or Off-white are typical. Many other colors available upon request – Contact Volatile Free, Inc. for details.

## Physical Properties

### ■ Weatherability

QUV results indicate that yellowing may be visibly discerned in neutral or off-white within one week actual exposure. While physical properties do not vary much with exposure to UV over time, chalking may occur relatively rapidly. If your application involves significant UV exposure when placed into service, you should consider protecting the VFI-2513 e.g. with an aliphatic topcoat.

### ■ Chemical Resistance

Hydrolytic Stability: Recovers after 10 days 150°F immersion. Generally resistant to most dilute aqueous agents when cleaned off within 10 hours of contact. Very difficult to stain by virtue of its high hardness and low porosity. Constant or frequent immersion service not recommended.

### ■ Tensile Properties

ASTM D-412	
Tensile Strength:	5283 psi
Elongation:	27%
Yield Strength:	5660 psi
Elastic Modulus:	37,690 psi

### ■ Tear Resistance

ASTM D-624:	366 lb/in
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### ■ Hardness

ASTM D-2240	
Shore D:	71 - 73

### ■ Impact Resistance

Un-notched Izod:	16.13ft*lbs/in @ 76°F
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## Liquid Component Properties

### ■ Solids

% Nonvolatile (wt): 100%

### ■ Viscosity

Poly Component:  
700 - 900 cps @ 77°F  
Iso Component:  
470 cps @ 77°F

### ■ Density

Poly Component:  
8.09 – 8.49 lbs./gal.  
Iso Component:  
9.55 – 9.95 lbs./gal.

### ■ Flash Point

ASTM D-56 (TCC)  
Greater than 200°F.

### ■ Toxicity

Iso component contains polymeric isocyanate requiring fresh air supply respirator, gloves, and protective clothing during application.

### ■ Storage Stability

One year in unopened containers at 50° - 90°F. **Do not** preheat over 100°F maximum without mixing.

## Application

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### ■ Material Preparation

Thoroughly power mix Poly and Iso component before beginning to apply. Usually this takes a minimum of 15 minutes per drum with proper mixing equipment. For specific mixers, blade and shaft length, contact Volatile Free, Inc. A hand mixer is not adequate.

### ■ Equipment

Plural component airless spray equipment capable of maintaining temperatures of 140°-160°F, 1800 psi minimum pressure and a 1:1 volume mix ratio. Compatible with a wide range of plural component spray guns, however, for detailed work the Gusmer GX-8 and especially the Gusmer DI modification for the GX-7 comes highly recommended. Contact Volatile Free, Inc. for specific instructions and spray equipment needed.

### ■ Reactivity

Gel Time: 10 – 14 sec @ RT  
< 3 sec @ 150°F.

### ■ Cure Time

Applied coating will set in 2 – 4 minutes at 70°F, depending on film thickness, liquid material temperature and the substrate temperature. Product can be placed into service after four hours of cure time at 70°F minimum. It is encouraged to begin priming or painting the plastic at the first sign of cure (typically 2 minutes) to maximize adhesion.

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