

FAST SET VIBRATION DAMPENING COATING

■ Description

VFI-45 is a high performance, 100% solids, spray applied, polyurea hybrid elasto-plastic polymer. It is characterized by high physical properties, moderate chemical and solvent resistance, usability under wide climatic conditions with outstanding durability. It is composed of isocyanate prepolymers which are reacted with amine prepolymers to form a polyurea-urethane 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

Some applicable uses would include, but not be limited to, the following:

- Vehicle under body coating.
- Spray in place vibration dampener
- Sealing of metal building seams and fasteners.
- Corrosion protection of metal parts.

■ Color

Custom colors are available. Please contact Volatile Free, Inc., for more information.

Physical Properties

■ Tensile Properties

ASTM D-412
Strength: 2,300 psi min.
Elongation: 220% min.
Permanent Set: 10% max.

■ Tear Resistance

ASTM D-624
Die C 300 ± 20 pli

■ Flammability

FMVSS 302
Pass self extinguishing.

■ Weatherability

ASTM G-53
No cracking, checking or loss of integrity after 2000 hours. **Note:** Product is an aromatic and will exhibit surface oxidation. Significant color change will be noticed in light colors.

■ Service Temperature

-40° to 180°F.

■ Hardness

ASTM D-2240
Shore A 90
Shore D 26

■ Cold Temperature Flexibility

ASTM D-3 111
Pass 0.25 inch mandrel @ -40°F.

■ Chemical Resistance

Excellent water resistance. Fair acid, solvent and alkali resistance.

■ Water Vapor Permeability

ASTM E-96
Procedure BW.100% RH. Difference @ 73°F
30 mil film: 0.015 perm ln.

■ Damping

0.25" displacement (T20, seconds) 5.817 seconds

■ Acoustics At Idle

Passenger compartment (Db)
64.27 Dd

■ Acoustics At 40 mph

Passenger compartment (Db)
67.28 Db

■ Thermal Test

Temperature inside passenger compartment when engine temperature is 180°F: 160.11 °F

Liquid Component Properties

■ Coverage

1600 mil square feet per gallon.

■ Solids

"A" 100% by weight and volume.

"B" 100% by weight and volume.

■ Volatile Organic Compounds

None.

■ Flash Point

Above 200°F.

■ Viscosity

"A" Component:

550-700 cps @ 77°F.

"B" Component:

700-900 cps @ 77°F.

■ Shelf Life

"A" One year @ 50° - 90°F.

"B" Two years @ 20° - 100°F.

■ Thinner

Not recommended.

■ Cure Time

Gel in 6-10 seconds. Tack free in 14 to 20 seconds. Develops chemical resistance and physical properties in 8 hours. Recoatable for up to 8 hours.

■ Mix Ratio

1:1 by volume.

■ Clean Up Solvent

Toluene, Xylene, MEK. For reduced fire hazard use glycol ethers or environmentally acceptable chlorinated solvents.

Application

■ Equipment

VFI-45 requires hot airless plural component equipment capable of producing a minimum of 1500 psi and heat to 140°F. Higher pressures to 2000 psi may provide better mixing with enhanced physical properties for the end product. Contact Volatile Free, Inc for more specific spray gun recommendations. Self-purging impingement mixing spray guns are required.

■ Primer

Self-priming on most surfaces. VFI #11 and VFI #12 epoxy primers are recommended where enhanced adhesion is needed. Please contact Volatile Free, Inc. for specific recommendations.

■ 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.

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