

## VFI®-3119 70 A POLYUREA HYBRID SPRAY COATING

VFI-3119 70 A Polyurea Hybrid Spray Coating is a medium hard, 100% solids, spray-applied coating with high properties. It is chemically made of polyurea and polyurethane to provide surfaces with a soft yet durable protective film. The coating has a good spray reaction, so it can be applied vertically without sagging or dripping on internal or external corners. Its low modulus makes it extremely flexible and able to resist impacts while over a soft or flexible substrate. It has increased strength and unparalleled durability, allowing it to flex with the substrate without tearing.

- Flexible and soft to withstand pressure from high impacts
- Great for projects where a soft and flat surface is needed
- With a light application, pieces can be put into service same day
- Protects substrate from excessive water absorption
- Contains no VOCs, making it environmentally friendly
- Can bond well with foam or other flexible surfaces

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness Shore A	ASTM D 2240	70 A
Tensile Strength	ASTM D 412	1,200 psi
Elongation	ASTM D 412	800%
Tear Strength	ASTM D 624	240 pli
Cold Temperature Flexibility	ASTM D 3111	Pass
Solid Material Density	N/A	65.60 pcf
Water Vapor Permeability	ASTM E 96	1.65 perm
Water Absorption	ASTM D 2842	1.50%
Permanent Set	N/A	30%
Adhesion Strength Prepared Steel/Prepared Concrete	N/A	>500 lbs/in <sup>2</sup>

  

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Solids by Volume	ASTM D 2697	100%
Liquid Density A Side	ASTM D 2939	9.07 lbs/gal
Liquid Density B Side	ASTM D 2939	8.47 lbs/gal
Mixed Liquid Density	ASTM D 2939	8.66 lbs/gal
Ratio by Volume (A:B)	N/A	1A:1B
Viscosity A Side	ASTM D 2196	2,000 cps
Viscosity B Side	ASTM D 2196	550 cps
Mixed Viscosity	N/A	1,275 cps
Gel Time	N/A	12 sec
Tack Free	N/A	45 sec
Recoat Window	N/A	4 hours
Place into Service	N/A	6 hours light; 48 full
Full Cure	N/A	3 days

**MANUFACTURER OF HIGH PERFORMANCE POLYMERS**

Toll-Free 800-307-9218 | [volatilefree.com](http://volatilefree.com) | [info@volatilefree.com](mailto:info@volatilefree.com)

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## THICKNESS REQUIREMENTS

The typical coverage rates are between 40 and 80 mils to develop a uniform film that protects the piece. For improved resistance to impacts on specialty projects, increase the millage. The material can be applied in multiple passes to increase mil thickness, but you must stay within the 20-minute open window. If you exceed the open window, we recommend using VFI-1007 Solvent Based Polyurethane Primer to create adhesion between layers.

## EQUIPMENT

VFI's recommended specifications for a high-pressure, plural component spray rig is to run it at 150°F-155°F and 2,500 psi of constant pressure with high-pressure heated hoses and 10 ft whip hoses. Gun tips will vary by the project and will need to be adjusted on site. The following machines are capable of meeting these specifications:

- Graco A-XP1 air sprayer provides up to 3,500 psi of constant pressure and 170°F with a 1.5 gal/min output and 210 ft hoses. Use with any Probler P2 or Fusion gun.
- Graco Reactor 2 E-XP2 electric sprayer provides up to 3,500 psi of constant pressure and 190°F with a 2 gal/min output and 310 ft hoses. Use with any Probler P2 or Fusion gun.
- Graco Reactor 2 H-XP2/XP3 hydraulic sprayers provide up to 3,500 psi of constant pressure and 190°F with 1.5 or 2.8 gal/min outputs and 310 or 410 ft hoses. Use with any Probler P2 or Fusion gun.
- PMC PHX-2 or 25 hydraulic sprayers, ideal for small or medium-scale applications, provide up to 3,000 psi of constant pressure and 190°F with outputs just under 2 gal/min and 210-410 ft hoses. Use with the AP-2 Air Purge, PX-7 Mechanical Purge, or Xtreme Spray Gun.

## SURFACE PREPARATION

Surfaces must be clean and dry before applying the coating. Use a brush or vacuum to remove dirt, debris, and other contaminants that may affect adhesion. Sanding or priming may be required, depending on the substrate. When spraying over EPS, ensure the foam has been aged at least 30 days. For an optimal cost-to-quality ratio, we recommend non-recycled EPS bead 2 PCF foam.

## MIXING

Before use, bring VFI-3119 to a minimum temperature of 65°F. Premix the Poly (B side) until uniform by first including all powder on the bottom of the container. Mixing times will vary based on the volume of the product and the mixing method. The A side (Iso) does not need to be mixed.

## POST CURE

Though it can be put into service in 6 hours, depending on the application thickness, allow three days for the material to fully cure.

## CLEANUP

When cleaning spray equipment and other tools, use xylene or MEK. We recommend cleaning and flushing out spray lines with VFI-8005 Pump Flush.

## STORAGE/SHELF LIFE

The material shelf life is 12 months from the date of manufacture. Store in a dry, temperature-controlled space in sealed and unopened containers between 60°F - 90°F. Once open, use it immediately. Opened containers can be resealed with a nitrogen purge, but the material shelf life will ultimately shorten. Moisture contamination can occur in both sides if you don't nitrogen purge the material. Moisture may create a hardened film over and in the A side (Iso). If there is moisture contamination within the B side (Poly), it will cause pinholes and foaming once mixed and sprayed. VFI-8403 Dryer can be used to reduce undesired effects in the B side.

## PRECAUTIONS

VFI-3119 is not a UV color-stable product. The A side of this product contains isocyanate, which means contact can result in skin irritation and inhalation can be toxic. The temperature will need to remain between 40°F - 100°F for the best results. Avoid prolonged breathing of vapors and repeated skin contact. When spraying, use a supplied air respirator or respirator with forced air ventilation in a chemically approved spray booth. Do not thin or add foreign material to the product. See the Safety Data Sheet for all safety information.

19500 JANACEK COURT | BROOKFIELD, WI 53045 | 262-787-0400 | TOLL-FREE 800-307-9218 | FAX 262-787-0500 | INFO@VOLATILEFREE.COM

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