

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
Shore Hardness	ASTM D2240	70 A
Tensile Strength	ASTM D412	1,200 psi
Elongation at Break	ASTM D412	800%
Tear Strength (Die C)	ASTM D624	240 pli
Abrasion Resistance	ASTM D4060	N/A
Impact Resistance	ASTM D256	N/A
Water Absorption	ASTM D471	1.50%
Weathering	N/A	Not UV Stable
Linear Shrinkage	N/A	N/A
Permeability	ASTM E96	1.65 perm
Adhesion Strength (prepared steel/concrete)	N/A	>500 lb/in ²
Color	N/A	Neutral

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Solids by Volume	ASTM D2697	100%
Mix Ratio by Volume	N/A	1A:1B
Weight per Gallon A Side	ASTM D1475	9.07 lb/gal
Weight per Gallon B Side	ASTM D1475	8.47 lb/gal
Viscosity A Side	ASTM D2196	2,000 cps
Viscosity B Side	ASTM D2196	550 cps
Gel Time	N/A	12 seconds
Tack-Free Time	N/A	45 seconds
Cure to Handle	N/A	6-48 hours
Recoat Window	N/A	4 hours
Full Cure Time	N/A	3 days
Volatile Organic Compounds	N/A	0

MANUFACTURER OF HIGH-PERFORMANCE POLYMERS
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THICKNESS REQUIREMENTS

Apply an average of 40-80 mils to the surface to create a uniform film that protects the piece. If the finished piece is to be placed in a high-traffic area, applying between 60-120 mils is required to increase impact resistance. If more coats are needed, apply them within the 20-minute recoat window. Adhesion issues may occur if you are coating past the 20-minute mark, but applying a primer can help generate adhesion. Depending on thickness, allow three days for the material to fully cure.

EQUIPMENT

VFI's recommended specifications for a high-pressure, plural component spray rig are 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 and will need to be adjusted on-site. The following machines can meet 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.

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 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.