

VFI®-6170 70 D SPRAY HARD COAT

VFI-6170 70 D Spray Hard Coat is a fast-setting, two-component, spray-applied polyurethane coating for theming and industrial design. When sprayed thick, the coating provides a durable, protective shell-like layer over structural shapes, 3-D sculptures, or other entertainment props primarily made with EPS foam. It is meant to be used by trained professionals familiar with high-pressure spray equipment. VFI-6170 is great for interior applications where Class A fire testing is necessary. The coating cures in seconds, so it can be sanded and painted shortly after spraying to achieve the desired finish and aesthetic.

- Provides fine detailing and less sag on verticals for theming designs and fabrication
- Provides a highly rigid surface that is resistant to impacts
- Can be easily sanded to create a desirable finish to paint over and improve aesthetics
- Meets strict indoor and outdoor fire safety requirements through ASTM E84
- Cures to touch in 20 seconds and cures to handle in 2-3 minutes
- Contains no VOCs or solvents, has 100% solids, and is environmentally safe

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness Shore D	ASTM D 2240	70
Tensile Strength	ASTM D 412	4,200 psi
Elongation	ASTM D 412	25%
Tear Strength	ASTM D 624	325 pli

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Solids by Volume	ASTM D 2697	100%
Specific Gravity Mixed	N/A	1.18
Ratio by Volume (A:B)	N/A	1A:1B
Viscosity A Side	ASTM D 2196	1,000 cps
Viscosity B Side	ASTM D 2196	3,000 cps
Tack Free	N/A	20 sec
Cure to Handle	N/A	2-3 min
Recoat Window	N/A	20 min

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 on the ground or in a high-traffic area, then extra coating at a rate 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 VFI-1007 Solvent Based Polyurethane Primer can help generate adhesion.

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

- EPS - The foam must be aged for at least 30 days so any gas can escape. We recommend using non-recycled EPS bead 2 PCF foam for an optimal cost-to-quality ratio, but 1-3 PCF is acceptable. Ensure that the surface is clean and dry before you begin spraying.
- Wood - The wood should be dry and contain less than 11% moisture; otherwise, it should be primed or mist-coated (a light dusting followed by the main application of the coating).

MIXING

Bring VFI-6170 to a minimum temperature of 65°F and premix the Poly (B side) components before use. The time it takes to mix the product until it is uniform will depend on the mixing method and the volume of the product. The A side does not need to be premixed.

POST CURE

Once cured, VFI-6170 must be top coated with paint or an equivalent coating for protection from UV rays. The object can be moved within the first hour of spraying but requires extra care until full cure, which could take up to 3 days.

CLEANUP

After application, clean your tools and spray equipment with xylene or MEK. We recommend flushing VFI-8005 Pump Flush through spray lines to prevent material from clogging the equipment.

STORAGE/SHELF LIFE

The material shelf life is 12 months from the date of manufacture. Store in a dry, temperature-controlled space in unopened containers between 60°F - 90°F. Once open, use it immediately and reseal containers with a nitrogen purge. 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-6170 is not a UV color-stable product and has no long-term UV testing. This product contains isocyanate, which can be irritating to the skin and toxic if inhaled. Avoid prolonged breathing or skin contact. Make sure the surface and ambient temperatures stay between 40°F - 100°F. 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.

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