VFI®-2538 70 D EPS FORM HARD COAT

VFI-2538 70 D EPS Form Hard Coat is a spray applied, 100% solids, polyurethane coating. It is capable of being sprayed over CNC or hot wire foam cut EPS to create a uniform and releasable surface when casting concrete. A hard polyurethane shell is an alternative to pourable urethane molds or epoxy coatings and allows for faster turnaround times on custom pieces. The form hard coat is easily sandable but does not always require post-work because it creates an extremely smooth finish. Its chemical makeup makes it capable of maintaining a smooth finish while providing square corners. Spraying VFI-2538 allows you to create a variety of shapes with less labor.

- Great for custom mold-making of a variety of shapes
- Flat, glass-like texture with reduced need for sanding
- Cures to handle in 5 minutes for faster mold turnaround time
- Saves time by eliminating the need to make a master and a mold box

Some usages of this product are to provide a hard shell for casting concrete and to replace existing fiberglass systems. Additionally, it will work as a smooth, sandable, and paintable form for signs or small projects.

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Shore Hardness	ASTM D2240	70 D
Tensile Strength	ASTM D412	3,600 psi
Tensile Modulus	ASTM D638	240,000 psi
Elongation	ASTM D412	8%
Flexural Strength	ASTM D790	8,700 psi
Flexural Modulus	ASTM D790	230,000 psi
Abrasion Resistance	ASTM D4060	N/A
Impact Resistance (Notched)	ASTM D256-10	.605 ft•lb
Weathering	N/A	Not UV Stable
Linear Shrinkage	N/A	N/A
Heat Deflection Temperature	ASTM D648	N/A
Color	N/A	Neutral
Class A Fire Testing	ASTM E84	No

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	9.78 lb/gal
Weight per Gallon B Side	ASTM D1475	8.65 lb/gal
Viscosity A Side	ASTM D2196	500 cps
Viscosity B Side	ASTM D2196	1,200 cps
Gel Time	N/A	N/A
Tack Free Time	N/A	80 seconds
Cure to Handle	N/A	5-7 minutes
Recoat Window	N/A	20 minutes
Full Cure Time	N/A	3 days
Volatile Organic Compounds	N/A	0

VFI®-2538 70 D EPS FORM HARD

THICKNESS REQUIREMENTS

We recommend spraying at a minimum rate of 60 mils or greater to create the best film properties. If subsequent coats are needed, you must stay within the 20-minute open window. If you exceed the open window, we recommend using a primer to create adhesion between layers.

EQUIPMENT

Low Pressure - VFI-2538 requires a low-pressure machine capable of spraying through a static mix tip. The machine needs to have enough pressure to fully clear the tip in 20 seconds, or the material will set up in the static mix tip. Heating the lines and material is recommended for optimal spray pattern and properties but is not required. The recommended temperature for heating the lines and material is between 80°F-100°F.

High Pressure - A high-pressure, plural component machine capable of heating the product and providing a minimum 2500 PSI of constant pressure can also be used. The recommended settings are constant pressure between 2300-2500 PSI and temperature between 150-155°F.

SURFACE PREPARATION

- **EPS** - Ensure that the EPS has been aged at least 30 days. Anything between 1 and 3 PCF is acceptable, but for an optimal cost-to-quality ratio, we recommend using 2 PCF foam. Once clean and dry, VFI-2538 can be applied directly to the EPS.
- **Wood** - The wood should be dry and contain less than 11% moisture; otherwise, it should be primed or mist-coated (a light dusting of the coating followed by the main application of the coating).
- **Urethane or Plastic** – First, sand the urethane or plastic and then apply a general urethane primer to ensure good adhesion to the substrate.

MIXING

The B side (Poly) must be premixed until uniform before use and continuously mixed throughout the application. The A side (Iso) does not need to be mixed. Mix times will increase if stored for long periods between use.

APPLICATION & CLEANUP

The material will need at least 3 hours to cure before heavy movement is allowed, but it is sandable within an hour. Light movement is acceptable sooner than 3 hours if needed. If spraying in thinner passes, it may require a longer post-cure time. Allow a minimum of 24 hours at 77°F for VFI-2538 to cure before casting onto the product. The preferred cleanup solvent is xylene or MEK. For cleaning and flushing out lines, it is recommended to use our VFI-8005 pump flush to fully clean out the lines.

CROSS CONTAMINATION

VFI-2538 should be able to run behind most polyureas and polyurethanes without issue, but VFI always recommends a test mix on the side before use. The test mix can be taken by combining some of the new material with some material within the spray lines and mixing them to see if there's a reaction.

STORAGE/SHELF LIFE

The shelf life of unopened containers is 12 months after the date of manufacture. Store the product between 60°F - 90°F in a clean, dry building. Once opened, use immediately. After opening, it is possible to store unused products by nitrogen purging both sides immediately after use. If you don't nitrogen purge the material, moisture contamination can occur in the A & B sides. The moisture contamination will create a hardened film over and in the A side (Iso) and can cause pinholes and foaming in the B side (Poly) when spraying. We recommend using VFI-8403 Dryer to reduce the moisture contamination effects in the B side.

STORAGE/SHELF LIFE

See the Safety Data Sheet for all information regarding safety.