

VFI®-3171 70 A MDI MOLDING RUBBER

VFI-3171 70 A MDI Molding Rubber is a 1A:2B, versatile urethane rubber that has high durability to make strong, flexible concrete molds and form liners. MDI-based rubber is best used in controlled, high-production environments where little moisture interaction is involved. The material maintains a workable viscosity, allowing you to pour thin, intricate parts or large parts quickly. Its viscosity also helps dissipate air bubbles without using a vacuum chamber. An extended pot life provides ample time to work with the material. The standard color of VFI-3171 is green, but a neutral color (VFI-3173) is available.

- Captures excellent detail and texture for high-quality, repeatable results
- Superior physical properties for making concrete molds and form liners
- 70 A elastomer with excellent rebound properties for easier demolding
- Moderate viscosity for pouring thin, intricate parts or large parts quickly
- Removes air bubbles without the need for vacuum degassing
- Outperforms when casting pigmented and colored concrete
- Consistent results in large- or small-scale applications
- Easy processing at room temperature

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Shore Hardness	ASTM D2240	70 A
Tensile Strength	ASTM D412	1,100 psi
Elongation at Break	ASTM D412	670%
Tear Strength (Die C)	ASTM D624	135 pli
Shrinkage (12" x 1/2" x 1/2")	ASTM D2566	<0.0010 in/in
Standard Color	N/A	Green

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Mix Ratio by Volume	N/A	1A:2B
Mix Ratio by Weight	N/A	100A:182.58B
Weight per Gallon A Side	ASTM D1475	9.5 lb/gal
Weight per Gallon B Side	ASTM D1475	8.66 lb/gal
Mixed Weight per Gallon	ASTM D1475	8.91 lb/gal
Specific Volume	N/A	26.04 in ³ /lb
Viscosity A Side (cps @ 77°F)	ASTM D2196	550 cps
Viscosity B Side (cps @ 77°F)	ASTM D2196	925 cps
Mixed Viscosity (cps @ 77°F)	ASTM D2196	800 cps
Pot Life (150g mass @ 77°F)	N/A	30 minutes
Gel Time (150g mass @ 77°F)	N/A	N/A
Demold Time @ 77°F	N/A	16 hours
Full Cure Time	N/A	7 days

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THICKNESS REQUIREMENTS

Pour the material in one spot at the lowest point of the mold until the desired thickness is reached. VFI recommends pouring at least 3/8 of an inch thick.

MOLD PREPARATION

The molding surface must be clean, dry, and free of dirt, oils, and debris. Use only non-sulfurous clay on molds to prevent unwanted adhesion and improper cure. The molding surface must be fully sealed and non-porous. Use a release agent to prevent adhesion. We recommend using Chem-Trend MR-515 Aerosol or a similar release agent. Spray several layers over the entire mold, waiting for the surface to dry before adding more. The release will help protect and extend the life of the mold. Spraying too much release can produce a shiny/glossy surface on the rubber that will transfer over to future castings. The material is compatible with most molds as long as it is used with a proper release agent.

MIXING

The material should be at least 65°F before use for proper mixing and application. Mixing times may vary depending on volume and mixing method. Vacuum degassing can further reduce air entrapment but is not required.

Thoroughly mix the POLY "B" component before mixing with the ISO "A" component. Usually, this takes a minimum of 3 minutes per "B" container with proper mixing equipment. Once the "B" component is thoroughly mixed, properly pour 1 part of the "A" component into 2 parts of the "B" component by volume, 100 parts "A" component to 182.58 parts "B" component by weight. Thoroughly mix for at least 30 seconds while ensuring the mix is uniform and homogenous. Transfer into a new, clean container and mix again before use. Be sure to scrape the sides and bottom of the container for uniformity.

POST-CURE

Allow the rubber to sit at room temperature for a minimum of 16 hours before demolding. It will develop full physical properties after 7 days at room temperature. It is required that the rubber sits for 3 days at room temperature before use or shipping. When using the rubber for casting, apply a release agent before each use. Use a release agent from a reputable release company, such as Chem-Trend, Stoner Molding Solutions, or Cresset Chemical Co. Do not use a solvent-containing release, as it can distort (shrink or expand) the mold.

STORAGE/SHELF LIFE

Store between 60°F - 90°F in a clean, dry building. The shelf life of unopened containers is 12 months after the date of manufacture. VFI-3171 must be protected from freezing, as it is difficult to unfreeze the material. Once open, use it immediately. If you plan to store open containers after use, both sides must be nitrogen purged.

PRECAUTIONS

This product contains isocyanate, which can irritate the skin and is toxic if inhaled as particulate matter. Avoid prolonged breathing of vapors and repeated skin contact. It is not UV color stable and has no long-term UV testing. Urethane is moisture-sensitive and may foam when exposed to too much moisture, so use VFI-3171 in a controlled, high-production environment to limit moisture interaction. Use only with adequate ventilation. Do not thin or add foreign material to the product. It must be protected from freezing. See the Safety Data Sheet for complete safety instructions.