VFI®-2151 50 A TDI MOLDING RUBBER

VFI-2151 50 A TDI Molding Rubber is a 1:1 by volume, MOCA-free urethane rubber for making durable molds. With excellent demolding characteristics that outperform most urethane rubber, VFI-2151 is a premium option when the amount of release used is the primary concern. Urethane rubber is ideal for mold applications where a certain detailed shape, contour, or curve is desired. It captures and reproduces exact textures and fine details that will transfer over to cast parts. With a workable viscosity, it removes trapped air and fills all necessary cavities without the use of a vacuum chamber or pressure pot. The standard color of VFI-2151 is blue, but a neutral color (VFI-2152) is available.

- Captures excellent detail and texture for high-quality, repeatable results
- Enhanced releasing properties that allow for easier demolding
- Workable viscosity reduces air bubbles and fills in voids
- Improved strength for better abrasion resistance and longer-lasting molds
- Decreased moisture sensitivity for extended working time
- Outperforms when casting pigmented and colored concrete
- Consistent results in large- or small-scale applications

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness Shore A	ASTM D2240	50 A
Tensile Strength	ASTM D412	805 psi
Elongation % at Break	ASTM D412	1220%
Die C Tear Strength	ASTM D624	103 pli
Dimensional Stability (12”x1/2”x1/2”)	ASTM D2566	<0.0010 in/in

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Specific Volume	N/A	27.33 in^3/lb
Specific Gravity A Side	ASTM D1475	1.03 g/mL
Specific Gravity B Side	ASTM D1475	1.01 g/mL
Mixed Specific Gravity	ASTM D1475	1.015 g/mL
Ratio by Volume (A:B)	N/A	1A:1B
Ratio by Weight (A:B)	N/A	100A:99B
Viscosity A Side (cps @ 77°F)	ASTM D2196	2500 cps
Viscosity B Side (cps @ 77°F)	ASTM D2196	1200 cps
Mixed Viscosity (cps @ 77°F)	N/A	2500 cps
Pot Life (150g mass @ 77°F)	N/A	18 mins
Gel Time (150g mass @ 77°F)	N/A	25 mins
Demold Time @ 77°F	N/A	16 hrs
Color	N/A	Blue

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THICKNESS REQUIREMENTS

Pour the material into a single spot at the lowest point of the mold until the desired thickness is met. VFI recommends pouring at a minimum of ¾ of an inch thick. If pouring less than ¾ of an inch thick, we recommend using a higher shore A hardness scale rubber.

MOLD PREPARATION

All surfaces should be clean and free of oils, dirt, or debris. Use a non-hardening sulfur-free clay on molds to prevent unwanted adhesion and improper cure. Porous surfaces such as natural stone, wood, or concrete must be properly sealed for ease of demolding. VFI recommends using a mixture of 80% mineral spirits to 20% petroleum jelly by weight as a sealer. Apply several layers of the mixture with a small chip brush, waiting for each layer to dry before adding another. After sealing, spray a light misting of a release agent over the entire molding surface to prevent unwanted adhesion. We recommend using Chem-Trend MR-515 Aerosol or a similar release agent.

Non-porous surfaces only require the use of a release agent. Using a release agent helps to protect and extend the life of the mold. Avoid spraying too much release, as this can produce a shiny/glossy surface on the rubber that will transfer 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.

1. Premix the B side (Poly) until uniform before combining it with the A side (Iso). Mix slowly to minimize any air entrapment.
2. Check the technical data sheet for the proper mix ratio by weight or volume and calculate the material needed on both sides.
3. Measure the A side into a clean mixing container.
4. Follow by measuring and adding the B side material into the same container.
5. Mix until uniform. Power mixing or meter mixing equipment is recommended for quantities over 1 gallon. Scrape the bottom and sides of the container to ensure a uniform mix is achieved.
6. Transfer to a new container and mix again before use. It must be fully mixed and poured before the end of the pot life.

POST-CURE

Allow the rubber to sit at room temperature for a minimum of 16 hours before demolding. The rubber 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. If the cured rubber is used for casting, a release agent should be applied before each use.

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. Once open, use it immediately. If you plan to store open containers after use, both sides must be nitrogen purged to try to extend the material's shelf life.

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. Urethanes are moisture sensitive and may bubble if exposed to too much moisture. VFI-2151 cannot be tinted. Use only with adequate ventilation. Do not thin or add foreign material to the product. See the Safety Data Sheet for complete safety instructions.

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