VFI®-2165 65 A TDI MOLDING RUBBER

VFI-2165 65 A TDI Molding Rubber is a 1:1, MOCA-free urethane rubber with high properties to make durable molds or parts. Urethane rubber is ideal for mold applications where a detailed certain shape, contour, or curve is desired. It captures and reproduces exact textures and fine details that will transfer over to cast parts. Compared to MDI rubbers, VFI-2165 has lower moisture sensitivity, lower exothermic reaction, and an extended pot life for easier processing and ample time to work with the material. VFI's 2100 series rubbers have inherent chemical strength and high properties to achieve more pulls from a single mold. 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-2165 is blue, but a neutral color (VFI-2166) is available.

- Superior physical properties ideal for urethane rubber mold making
- Improved strength for better abrasion resistance and longer lasting molds
- Captures excellent detail and texture for higher quality, repeated results
- Outperforms when casting pigmented and colored concrete
- Increased rebound properties allow for easier demolding
- Decreased moisture sensitivity for extended working time
- Low viscosity eliminates the need for use of a vacuum chamber
- Stays cleaner, longer, resulting in less maintenance and faster turns
- Scalable for consistent results in large or small scale applications

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Hardness Shore A	ASTM D2240	65 A
Tensile Strength	ASTM D412	1,250 psi
Elongation	ASTM D412	1,150%
Tear Strength	ASTM D624	155 pli
Dimensional Stability	N/A	<0.0010 in/in

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Specific Volume	N/A	26.0 in^3/lb
Mixed Liquid Density	ASTM D2939	8.89 lbs/gal
Mixed Specific Gravity	N/A	1.07 g/mL
Ratio by Volume (A:B)	N/A	1A:1B
Ratio by Weight (A:B)	N/A	100A:96.3B
Mixed Solids by Volume	ASTM D2697	100%
Viscosity A Side	ASTM D2196	2,000 cps
Viscosity B Side	ASTM D2196	1,750 cps
Mixed Viscosity	N/A	2,200 cps
Pot Life	N/A	20 mins
Demold Time	N/A	16 hrs
Place into Service	N/A	72 hrs
VOC	N/A	0 g/L

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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 ⅜ of an inch thick.

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. 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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