VFI®-4660 95 A POLYURETHANE CASTING ELASTOMER

VFI-4660 95 A Polyurethane Casting Elastomer is a fast-setting, 1A:1B by volume, hard elastomer with good durability and rebound properties. It is capable of being a hand-pour material when making smaller parts or for use in an injection system. The material's fast-setting capabilities allow for a quick demold time that increases part production. It provides excellent physical properties, such as good chemical resistance and low-temperature flexibility for increased use through multiple cycles. VFI-4660 has a workable viscosity, which allows for increased part sizes that maintain final physical properties. This tough elastomer has been used in a variety of applications, like mold and model making, prototyping, and industrial part-making.

- Fast demold time for a quick turnaround on parts
- High amine content provides good chemical resistance and low-temperature flexibility
- 1A:1B mix ratio by volume allows for easy mixing and pouring
- Workable material that allows parts to be poured or injected
- Great material for mold, model, and industrial part making
- Low viscosity helps limit the amount of trapped air and fills all necessary cavities

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Shore Hardness A	ASTM D2240	95 A
Shore Hardness D	ASTM D2240	60 D
Tensile Strength	ASTM D638	2,500 psi
Elongation at Break	ASTM D412	300%
Tear Strength (Die C)	ASTM D624	300 pli
Shrinkage (12" x 1/2" x 1/2")	N/A	<0.010 in/in
Impact Test Results		
1/8" Film No Backing	@ 0°F	12 psi
1/2" Film No Backing	@ 0°F	>28 psi
Color	N/A	Neutral

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Mix Ratio by Volume	N/A	1A:1B
Mix Ratio by Weight	N/A	100A:100B
Weight per Gallon A Side	ASTM D1475	9.16 lb/gal
Weight per Gallon B Side	ASTM D1475	9.16 lb/gal
Mixed Weight per Gallon	ASTM D1475	9.16 lb/gal
Specific Volume	N/A	N/A
Viscosity A Side (cps @ 77°F)	ASTM D2196	1,000 cps
Viscosity B Side (cps @ 77°F)	ASTM D2196	1,750 cps
Mixed Viscosity (cps @ 77°F)	ASTM D2196	N/A
Pot Life (150g mass @ 77°F)	N/A	1.5 minutes
Gel Time (150g mass @ 77°F)	N/A	2 minutes
Demold Time @ 77°F	N/A	15 minutes
Full Cure Time	N/A	3 days

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THICKNESS REQUIREMENTS

If you are pouring or injecting over 5 pounds of material, a different material that has a longer working time should be used. When casting, pour the material in a single spot at the lowest point of 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. Once open, use immediately, but if storing after opening, both sides must be nitrogen purged.

MOLD PREPARATION

Ensure all molding equipment and surfaces are clean and free of oils, dirt, or debris. The mold should be properly sealed and released to prevent unwanted adhesion when demolding. Using a release agent is required to help extend the life of the mold. Heating the mold between 70°F-150°F before use can accelerate the curing process, decreasing the demold time. Heating will also decrease the pot life. Compatible molds include urethane, metal, and platinum silicone when properly prepared.

MIXING

The B side (Poly) must be slowly premixed to minimize air entrapment. Small volumes can be hand-mixed, but larger quantities should be mixed with a power mixer or injection equipment. Once measured into containers, pour the B side material into the A side (Iso) material, and mix until uniform. Scrape the bottom and sides of the container while mixing. The material must be fully mixed and used before the duration of the pot life. The pot life will shorten if the temperature exceeds 72°F. Mix times may vary depending on volume and mixing method.

POST CURE

Leave the material to cure for at least 15 minutes at room temperature before demolding. Full physical properties occur after 3 days at room temperature, but they can be achieved faster if the material is post-cured at 150°F for a minimum of 2 hours. Post-curing is recommended for thinner pours.

PRECAUTIONS

VFI-4660 is sensitive to moisture and contains isocyanate, which may irritate the skin and is toxic if inhaled as particulate matter. Avoid prolonged breathing of vapors or repeated skin contact. Use only with adequate ventilation. Do not thin or add foreign material to the product. See the Safety Data Sheet for complete safety instructions.