

VFI®-4172 75 D SLOW CASTING PLASTIC

VFI-4172 75 D Slow Casting Plastic is a hard, 100% solids, polyurethane plastic with a convenient 1:1 mix ratio by volume and high tensile strength. A longer pot life provides you with ample time to pour and process the material, which is great when pouring larger castings. The slow cure allows for pours at least ½" thick. This material is highly functional and easily machined with CNC or woodworking equipment. VFI-4172 is made to be poured and cured at room temperature for easier processing.

- Capable of casting at a thickness of ½ an inch
- Long pot life for more working time
- Produces durable and repeatable castings
- Neutral color that can easily be painted and primed after full cure
- Capable of being sanded and machined to a smooth and exact finish

PHYSICAL PROPERTIES	TEST METHOD	TEST RESULTS
Shore Hardness	ASTM D2240	75 ± 2 D
Tensile Strength	ASTM D638	5,000 psi
Tensile Modulus	ASTM D638	N/A
Elongation at Break	ASTM D638	14.00%
Flexural Modulus	ASTM D790	221,000 psi
Izod Impact, Notched	ASTM D256	N/A
Linear Shrinkage	ASTM D2566	<0.005 in/in
Heat Deflection Temperature (@ 66 psi)	ASTM D648-18	N/A
Flame Test	UL 94-V0	No
Standard Cured Color	N/A	White

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Mix Ratio by Volume	N/A	1A:1B
Mix Ratio by Weight	N/A	88.40A:100B
Weight per Gallon A Side	ASTM D1475	9.58 lb/gal
Weight per Gallon B Side	ASTM D1475	8.41 lb/gal
Mixed Weight per Gallon	ASTM D1475	9.00 lb/gal
Viscosity A Side (cps @ 77° F)	ASTM D2196	175 cps
Viscosity B Side (cps @ 77° F)	ASTM D2196	175 cps
Mixed Viscosity (cps @ 77° F)	ASTM D2196	175 cps
Pot Life (150g mass @ 77°F)	N/A	15 minutes
Gel Time (150g mass @ 77°F)	N/A	18 minutes
Demold Time @ 77°F	N/A	N/A
Full Cure Time	N/A	7 days

MANUFACTURER OF HIGH-PERFORMANCE POLYMERS
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THICKNESS REQUIREMENTS

We recommend pouring VFI-4172 at a minimum thickness of 1/2". Anything thinner than 1/2" will require post-curing at 150°F for a minimum of 2 hours.

MOLD PREPARATION

Using a release agent is recommended for any molding application to extend the life of the mold, and for prototyping urethane molds, it is a requirement. Heated molds are not recommended for this product or any mold over 120°F. Do not use a two-part closed mold.

MIXING

The B side (Poly) must be premixed once daily before each use, being careful not to introduce extra moisture or air. The A side (Iso) does not need to be mixed.

If vacuum degassing, prepare an appropriately sized container with at least 2/3 of headspace. Pour measured A side into the container and promptly follow by pouring measured B side into the same container. Mix until uniform by hand or power mixer. Mixing, degassing, and pouring must all be completed before the end of the pot life.

POST-CURE

VFI-4172 does not require post-curing unless it is poured at less than 1/2". If pouring thinner than 1/2 of an inch, it must be post-cured at 150°F for a minimum of 2 hours. Regardless of thickness, it will reach full properties within 7 days of curing.

STORAGE/SHELF LIFE

The material shelf life is 6 months for the Iso (A side) and 1 year for the Poly (B side) from the date of manufacture. Store in a clean, dry place between 60°F - 90°F.

PRECAUTIONS

This product contains isocyanate, which may irritate the skin and is toxic if inhaled as particulate matter. VFI-4172 can be harmful if swallowed and cause eye irritation, allergies, or asthma symptoms. Seek medical attention if exposed or concerned. Avoid prolonged breathing of vapors or repeated skin contact. Wear PPE including gloves, eye, and face protection. Use only with adequate ventilation. Do not add foreign material to the product. See Safety Data Sheet for complete safety information.