

## VFI®-4171 70 D CASTING PLASTIC

VFI-4171 70 D Casting Plastic is a slow-setting, two-component, polyurethane plastic with high physical properties. This material is capable of being machined with CNC or wood working equipment to create exact machined parts. Its slow demold time allows for more intricate molds and vacuum degassing before pouring. This material is made to be poured at 1/2" or thicker due to its slower setting speed and lower exotherm. VFI-4171 will cure in a silicone mold with the use of a pressure pot for a repeatable, uniform part.

- Extended pot life for vacuum degassing and pressure potting
- Able to pour castings over 2 inches in thickness
- 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
Hardness Shore D	ASTM D 2240	70 D ± 2
Tensile Strength	ASTM D 638	4520 psi
Tensile Modulus	ASTM D 638	67,100 psi
Elongation	ASTM D 638	31.7%
Flexural Modulus	ASTM D 790	198,000 psi
Yield Stress	ASTM D 790	7660 psi
Shrinkage Linear	12"x0.5"x0.5"	0.03125 in/in

LIQUID PROPERTIES	TEST METHOD	TEST RESULTS
Mixed Solids by Volume	ASTM D 2697	100%
Liquid Density A Side	ASTM D 2939	9.59 lbs/gal
Liquid Density B Side	ASTM D 2939	8.38 lbs/gal
Mixed Liquid Density	ASTM D 2939	8.99 lbs/gal
Specific Gravity A Side	N/A	1.15 g/mL
Specific Gravity B Side	N/A	1.01 g/mL
Mixed Specific Gravity	N/A	1.08 g/mL
Ratio by Volume (A:B)	N/A	1A:1B
Ratio by Weight (A:B)	N/A	100A:87.13B
Pot Life	N/A	5 minutes
Demold Time	N/A	40 minutes
VOC	N/A	0

**MANUFACTURER OF HIGH PERFORMANCE POLYMERS**

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# VFI®-4171 70 D CASTING PLASTIC

## THICKNESS REQUIREMENTS

We recommend pouring VFI-4171 at a minimum thickness of 1/2" or greater. When pouring thinner than 1/2", we recommend using VFI-4170 70 D Fast Casting Plastic.

## STORAGE/SHELF LIFE

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.

## MOLD PREPARATION

Release agents are 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.

Prepare a container that is an appropriate size for degassing. It is recommended to contain at least 2/3 of headspace in order to vacuum degas. 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, vacuum degassing, and pouring must all be completed before the end of the pot life.

## POST-CURE

To get full properties within 24 hours, post-cure at 150°F for 16 hours. It will reach full properties within 3 days without post-curing.

## PRECAUTIONS

This product 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 add foreign material to the product. See Safety Data Sheet for complete safety data.