

VFI®-4170 70 D FAST CASTING PLASTIC

VFI-4170 70 D Fast Casting Plastic is a hard, 100% solids, polyurethane plastic with a convenient 1:1 mix ratio by volume and high tensile strength. It offers a fast demold time that allows multiple parts to be poured in one day to increase mold cycle times. The fast cure allows for pours between 1/8" to 1/4" and is a good rotocast material. This material is highly functional and easily machined with CNC or woodworking equipment. VFI-4170 is made to be poured and cured at room temperature for easier processing.

- Capable of casting a thickness of 1/8 of an inch
- Fast setting with a 20-minute demold 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
Hardness Shore D	ASTM D 2240	70 D ± 2
Tensile Strength	ASTM D 638	5750 psi
Tensile Modulus	ASTM D 638	61,500 psi
Elongation	ASTM D 638	17.7%
Flexural Modulus	ASTM D 790	202,000 psi
Yield Stress	ASTM D 790	8370 psi
Shrinkage Linear	12"x0.5"x0.5"	0.0625 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	8.27 lbs/gal
Mixed Liquid Density	ASTM D 2939	8.93 lbs/gal
Specific Gravity A Side	N/A	1.15 g/mL
Specific Gravity B Side	N/A	0.99 g/mL
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:86.3B
Pot Life	N/A	2.5 minutes
Demold Time	N/A	20 minutes
VOC	N/A	0

MANUFACTURER OF HIGH PERFORMANCE POLYMERS

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THICKNESS REQUIREMENTS

We recommend pouring VFI-4170 at a minimum thickness of 1/8" with a maximum thickness of 2 inches. Anything thinner than 1/8" will require post-curing at 150°F for a minimum of 2 hours.

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

VFI-4170 does not require post-curing unless it is poured at less than 1/8". If pouring thinner than 1/8" 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 3 days of 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.