Innovative

Innothane®

Product Name

InnoTuf® TP-4050

User Friendly/High Impact/4-6 Min. Gel Time

Description

TP-4050 is a rigid, impact resistant polyurethane formulated for hand-batch processing, vacuum assist casting or meter mix dispense methods. Excellent physical properties can be obtained with a mild post cure without the utilization of mercury, MOCA, or TDI. TP-4050 is a tough ABS simulated product with a very low mixed viscosity and great demold characteristics.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)		**100:100**	
Mix Ratio	Resin:Hardener (parts by volume)		**90:100**	
Viscosity	Resin	75	**Gel Time**	5 ± 1 Minutes
(cps@100˚F)	Hardener	1100	**Demold Time***	60 ± 15 Minutes
	Mixed	325	**Color**	White
Specific Gravity	Resin	1.21	***Demold time is always mass dependant**	
(g/cc)	Hardener	1.09		

Cured Properties

Cure 1►2 hours at 150˚F + 24 hours at 77˚F
Cure 2►16 hours at 180˚F + 7 days at 77˚F

RoHS

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	80±5	80±5
Tensile Strength (psi)	ASTM D-638	8,200	8,500
Elongation at Break	ASTM D-638	20%	20%
Ultimate Flex Strength (psi)	ASTM D-790	11,500	11,500
Flexural Modulus (psi)	ASTM D-790	225,000	250,000
Notched Izod (ft.lbs./in.)	ASTM D-256	2.0	1.8
Linear Shrink (in./in.)	ASTM D-2566	.001-.005	.001-.005
Heat Deflection Temp. (66psi)	ASTM D-648	70˚C / 158°F	80˚C / 176°F
Specific Gravity (g/cc)		1.09	1.09

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Processing Notes

For best results, de-air material prior to casting, then pressurize to 60 psi until cured. Depending on the temperature of the mold and mass of the part, the color of this product will change. If the mold is room temperature and the mass is small, the color will remain translucent. If the mold is preheated to 150°F, the part will turn white and the demold time reduced to an hour or less. This material does not have to be used in conjunction with heat. However, significant improvements in HDT are made when using the post cure methods above.

The components can freeze when stored or shipped in temperatures below 32°F. In the event your system freezes, call your Innovative Polymers representative to discuss reconstitution methods. Agitate the hardener and resin before use to ensure that the formula is homogeneous.

Kit Weights	Quart Kits	1 Gal. Kit	5 Gal. Kit	Drum Kit
	4 lbs.	16 lbs.	80 lbs.	900 lbs.

Safety and Handling

DO NOT USE UNTIL MSDSs HAVE BEEN READ AND UNDERSTOOD. Store containers in a dry location. Partially used containers should be blanketed with dry nitrogen to prevent moisture contamination. Moisture will react with the resin component, creating carbon dioxide gas and a possible pressure increase in the container.
SPECIFICATION WRITERS: The above values are meant to represent typical properties only. Users are encouraged to qualify products in their own laboratories prior to specification publication.
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