Innothane®

Product Name

InnoTuf® TP-4014

Impact Resistant/Flame Retardant

Description

TP-4014 is an impact resistant polyurea formulated for vacuum assisted or meter-mix dispensing methods. Excellent physical properties can be obtained without the utilization of mercury, MOCA, or TDI. TP-4014 is a U.L 94vO registered flame retardant polyurethane. It also meets the standards to pass FAR 25.853.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)		**100:50**	
Mix Ratio	Resin:Hardener (parts by volume)		**100:48**	
Viscosity	Resin	1050	**Gel Time**	12.5 ± 2.5 Minutes
(cps@100˚F)	Hardener	200	**Demold Time***	1 Hour at 150°F
	Mixed	700	**Color**	Amber
Specific Gravity	Resin	1.23	***Demold time is always mass dependant**	
(g/cc)	Hardener	1.27		

Cured Properties

Cure 1►1 hour at 150°F + 24 hours at 77˚F
Cure 2►7 days at 77˚F

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	70 ± 5	70 ± 5
Tensile Strength (psi)	ASTM D-638	4,000	5,500
Elongation at Break	ASTM D-638	70%	55%
Ultimate Flex Strength (psi)	ASTM D-790	6,400	4,800
Flexural Modulus (psi)	ASTM D-790	150,000	110,000
Notched Izod (ft.lbs./in.)	ASTM D-256	3.0	2.5
Linear Shrink (in./in.)	ASTM D-2566	.001-.005	.001-.005
Heat Deflection Temp. (66psi)	ASTM D-648	110˚C / 230˚F	105˚C / 221˚F
Heat Deflection Temp. (264psi)	ASTM D-648	89˚C / 192˚F	85˚C / 185˚F
Specific Gravity (g/cc)		1.23	1.23

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Processing Notes

Formulated for hand-batch equipment. For best results, de-air the material prior to casting, then pressurize to 60 psi until cured. The hardener component will darken as it ages. It is recommended that dry nitrogen be used to protect the material from oxidizing and being moisture contaminated.

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
	3 lbs.	12 lbs.	60 lbs.	675 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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