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Product Data Bulletin

Product Name

TP 4006 Polyurethane

High Impact + High Heat Resistant

Description

TP 4006 is a tough, impact resistant elastomer formulated for room temperature hand-batch or vacuum-assisted casting methods. Excellent physical properties can be obtained with a room temperature cure without the utilization of mercury, MOCA, or TDI. TP 4006 is particularly ideal for color-matching applications due to its neutral semi-transparent appearance.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)		**100:65**	
Mix Ratio	Resin:Hardener (parts by volume)		**100:63**	
Viscosity	Resin	1600	**Gel Time**	10 ± 2 Minutes
(cps@77˚F)	Hardener	500	**Demold Time***	1 Hour at 150˚F
	Mixed	400	**Color**	Transparent Amber
Specific Gravity	Resin	1.20		
(g/cc)	Hardener	1.24		

* Demold time is always mass dependant

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

Cured Properties

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	80 ± 5	80 ± 5
Tensile Strength (psi)	ASTM D-638	9,500	11,400
Elongation at Break	ASTM D-638	11%	7%
Compression Strength (psi)	ASTM D-695	N/A	N/A
Compression Modulus (psi)	ASTM D-695	N/A	N/A
Ultimate Flex Strength (psi)	ASTM D-790	8,500	13,500
Flexural Modulus (psi)	ASTM D-790	185,000	300,000
Notched Izod (ft.lbs./in.)	ASTM D-256	1.8	1.5
Linear Shrink (in./in.)	ASTM D-2566	0.002 - 0.005	0.002 - 0.005
Heat Deflection Temp. (66psi)	ASTM D-648	N/A	N/A
Heat Deflection Temp. (264psi)	ASTM D-648	130˚C / 266˚F	140˚C / 285˚F
Specific Gravity (g/cc)		1.21	1.21

Processing Notes

Formulated for hand-batch or vacuum assisted casting equipment. For best results, de-air the material prior to casting, then pressurize to 60 psi until cured. If pigment has been added to the to the hardener component, it may separate during storage. Agitate hardener before mixing to ensure that the formula is homogeneous.

Safety and Handling

DO NOT USE UNTIL MSDS 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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