

Product Name

TP 4007 Polyurethane
 High Impact + High Heat Resistant

Description

TP 4007 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 4007 is particularly ideal for color-matching applications due to its neutral semi-transparent appearance.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)	100:50		
Mix Ratio	Resin:Hardener (parts by volume)	100:50		
Viscosity (cps@77 F)	Resin	1000	Gel Time	10 ± 2 Minutes
	Hardener	600	Demold Time*	1 Hour at 150 F
	Mixed	400	Color	Transparent Amber
Specific Gravity (g/cc)	Resin	1.20	* Demold time is always mass dependant	
	Hardener	1.20		

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	9,000	10,500
Elongation at Break	ASTM D-638	19%	10%
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	13,500	15,000
Flexural Modulus (psi)	ASTM D-790	285,000	325,000
Notched Izod (ft.lbs./in.)	ASTM D-256	1.2	1.2
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	171 C / 340 F	174 C / 346 F
Specific Gravity (g/cc)		1.20	1.20

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. PURCHASER has the responsibility for determining any applicability of and compliance with federal, state, and local laws concerning labeling, use, and waste disposal, particularly in making consumer items. Innovative Polymers, Inc. makes no warranty, expressed or implied, for merchantability or fitness of use. The sole liability of Innovative Polymers, Inc. for any claim arising out of the manufacture, use, or sale of its products shall be the buyers purchase price.