

**Product Name**

TP-4001 Polyurethane

**Description**

TP-4001 is a tough, impact resistant polyurea formulated for meter-mix dispensing systems and short mold cycle times. Excellent physical properties can be obtained without the utilization of mercury, MOCA, or TDI. TP-4001 is designed to simulate Thermoplastic Olefin (TPO) materials for producing large parts with exceptional Notched Izod impact strength.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)		100:50	
Mix Ratio	Resin:Hardener (parts by volume)		100:50	
Viscosity (cps@100°F)	Resin	7900	Gel Time	120 ± 10 Seconds
	Hardener	70	Demold Time*	45 ± 15 Minutes
	Mixed	2100	Color	Black
Specific Gravity (g/cc)	Resin	1.17	* Demold time is always mass dependant.	
	Hardener	1.17		

Cure 1 ► 24 hours at 77°F
Cure 2 ► 7 days at 77°F

Cured Properties

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	70 ± 5	70 ± 5
Tensile Strength (psi)	ASTM D-638	3,300	3,400
Elongation at Break	ASTM D-638	120%	100%
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	2,500	3,500
Flexural Modulus (psi)	ASTM D-790	65,000	100,000
Notched Izod (ft.lbs./in.)	ASTM D-256	10.0	6.0
Linear Shrink (in./in.)	ASTM D-2566	N/A	0.002
Heat Deflection Temp. (66psi)	ASTM D-648	68°C / 154°F	70°C / 158°F
Heat Deflection Temp. (264psi)	ASTM D-648	N/A	N/A
Specific Gravity (g/cc)		1.14	1.14

Processing Notes

TP-4001 can be used at room temperature. Meter-mix equipment is recommended due to the short working-life of the formulation. The hardener component will separate during shipping/storage.

Agitate the hardener and resin before use 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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