

# InnoTuf® TP-4006

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

TP-4006 is an impact resistant polyurea formulated for vacuum assisted casting systems and short mold cycle times. Excellent physical properties can be obtained without the utilization of mercury, MOCA, or TDI.

General Information			
Features	Fast Molding Cycle		
	High Heat Resistance		
	High Impact Resistance		
RoHS Compliance	RoHS Compliant		
Appearance	Amber		
Processing Method	Vacuum Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
Base Resin	1.20	g/cm <sup>3</sup>	
Cured	1.21	g/cm <sup>3</sup>	
Hardener	1.24	g/cm <sup>3</sup>	
Molding Shrinkage - Flow	0.20 to 0.50	%	ASTM D2566
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	1280	MPa	ASTM D790
Flexural Strength	58.6	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	96	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	130	°C	ASTM D648
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
	Mix Ratio by Volume: 63		
Hardener	Mix Ratio by Weight: 65		
	Mix Ratio by Weight: 100		
Resin	Mix Ratio by Volume: 100		
Demold Time (66°C)	60	min	

Uncured Properties	Nominal Value	Unit	Test Method
Viscosity			
38°C <sup>1</sup>	0.40	Pa·s	
38°C <sup>2</sup>	0.50	Pa·s	
38°C <sup>3</sup>	1.6	Pa·s	
Curing Time <sup>4</sup>	25	hr	
Gel Time	8.0 to 12	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	75 to 85		ASTM D2240
Tensile Strength	65.5	MPa	ASTM D638
Tensile Elongation at Break	11	%	ASTM D638
NOTE			
1.	Mixed		
2.	Hardener		
3.	Resin		
4.	1 hour at 150°F + 24 hours at 77°F		

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