

InnoTuf® TP-4045

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

TP-4045 is an impact resistant polyurea formulated for room temperature hand-batch or machine dispensable systems. Excellent physical properties can be obtained without the utilization of mercury, MOCA, or TDI.

General Information			
Features	Good Impact Resistance		
RoHS Compliance	RoHS Compliant		
Appearance	Black		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
Base Resin	1.16	g/cm ³	
Cured	1.18	g/cm ³	
Hardener	1.24	g/cm ³	
Molding Shrinkage - Flow	0.20 to 0.80	%	ASTM D2566
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	758	MPa	ASTM D790
Flexural Strength	24.8	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	350	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	85.0	°C	
1.8 MPa, Unannealed	74.0	°C	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
	Mix Ratio by Volume: 50		
Hardener	Mix Ratio by Weight: 53		
	Mix Ratio by Weight: 100		
Resin	Mix Ratio by Volume: 100		
Demold Time	60 to 120	min	
Uncured Properties	Nominal Value	Unit	Test Method
Viscosity			
38°C ¹	0.10	Pa · s	

38°C ²	2.1	Pa·s	
38°C ³	5.1	Pa·s	
Curing Time (25°C)	1.7E+2	hr	
Gel Time	4.0 to 6.0	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	65 to 75		ASTM D2240
Tensile Strength	27.6	MPa	ASTM D638
Tensile Elongation at Break	70	%	ASTM D638
NOTE			
1.	Hardener		
2.	Mixed		
3.	Resin		


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