

InnoTuf® TP-4050

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

TP-4050 is a rigid, impact resistant polyurethane formulated for hand-batch processing, vacuum assist casting or meter mix dispense methods. Excellent physical properties can be obtained with a mild post cure without the utilization of mercury, MOCA, or TDI. TP-4050 is a tough ABS simulated product with a very low mixed viscosity and great demold characteristics.

General Information			
Features	Good Toughness High Impact Resistance High Rigidity Low Viscosity		
RoHS Compliance	RoHS Compliant		
Appearance	White		
Processing Method	Vacuum Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
Cured	1.09	g/cm ³	
Hardener	1.09	g/cm ³	
Base Resin	1.21	g/cm ³	
Molding Shrinkage - Flow	0.10 to 0.50	%	ASTM D2566
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	1550	MPa	ASTM D790
Flexural Strength	79.3	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	110	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	70.0	°C	ASTM D648
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
	Mix Ratio by Volume: 100		
Hardener	Mix Ratio by Weight: 100		

Mix Ratio by Weight: 100

Resin	Mix Ratio by Volume: 90		
Demold Time	45 to 75	min	
Uncured Properties	Nominal Value	Unit	Test Method
Viscosity			
38°C ¹	0.075	Pa·s	
38°C ²	0.33	Pa·s	
38°C ³	1.1	Pa·s	
Curing Time ⁴	26	hr	
Gel Time	4.0 to 6.0	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	75 to 85		ASTM D2240
Tensile Strength	56.5	MPa	ASTM D638
Tensile Elongation at Break	20	%	ASTM D638
NOTE			
1.	Resin		
2.	Mixed		
3.	Hardener		
4.	2 hours at 150°F + 24 hours at 77°F		

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