InnoTuf® TP-4054

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

TP-4054 is a rigid, impact resistant polyurethane formulated for hand-batch processing. Excellent physical properties can be obtained with a mild post cure without the utilization of mercury, MOCA, or TDI. TP-4054 is a tough ABS simulated product.

General Information			
Features	Good Toughness		
	High Impact Resistance		
	High Rigidity		
RoHS Compliance	RoHS Compliant		
Appearance	White		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
Hardener	1.22	g/cm³	
Cured	1.23	g/cm³	
Base Resin	1.35	g/cm³	
Molding Shrinkage - Flow	0.10 to 0.50	%	ASTM D2566
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	2070	MPa	ASTM D790
Flexural Strength	80.7	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	53	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed)	75.0	°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	60 to 180	min	
Uncured Properties	Nominal Value	Unit	Test Method

Viscosity					
38°C ¹	0.10	Pa·s			
38°C ²	0.70	Pa·s			
38°C ³	1.5	Pa·s			
Curing Time ⁴	26	hr			
Gel Time	6.0 to 10	min			
Cured Properties	Nominal Value	Unit	Test Method		
Shore Hardness (Shore D)	80 to 90		ASTM D2240		
Tensile Strength	60.7	MPa	ASTM D638		
Tensile Elongation at Break	5.0	%	ASTM D638		
NOTE					
1.	Resin				
2.	Mixed				
3.	Hardener	Hardener			
4.	2 hours at 150°F + 24 hour	2 hours at 150°F + 24 hours at 77°F			

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