

InnoTuf® TP-4053

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

TP-4053 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-4053 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	1.23	g/cm³	
Cured	1.25	g/cm³	
Base Resin	1.36	g/cm³	
Molding Shrinkage - Flow	0.10 to 0.50	%	ASTM D2566
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	3450	MPa	ASTM D790
Flexural Strength	108	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	37	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	0.15	Pa·s	
38°C ²	1.0	Pa·s	
38°C ³	2.2	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	65.5	MPa	ASTM D638
Tensile Elongation at Break	4.0	%	ASTM D638
NOTE			
1.	Resin		
2.	Mixed		
3.	Hardener		
4.	2 hours at 150°F + 24 hours at 77°F		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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