

InnoTooling™ IE-644-02

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

IE-644-02 is a tough, abrasion resistant elastomer formulated for room temperature hand-batch processing. Excellent physical properties can be obtained with a room temperature cure without the utilization of mercury, MOCA, or TDI. IE-644-02 is ideal for very large parts as well as mass casting and tooling.

General Information			
Features	Good Abrasion Resistance		
	Good Toughness		
RoHS Compliance	RoHS Compliant		
Appearance	Amber		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
Hardener	1.09	g/cm ³	
Cured	1.10	g/cm ³	
Base Resin	1.13	g/cm ³	
Molding Shrinkage - Flow	0.40	%	ASTM D2566
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	320	J/m	ASTM D256
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
	Mix Ratio by Volume: 26		
Hardener	Mix Ratio by Weight: 25		
	Mix Ratio by Weight: 100		
Resin	Mix Ratio by Volume: 100		
Demold Time	240 to 480	min	
Uncured Properties	Nominal Value	Unit	Test Method
Viscosity			
25°C ¹	0.10	Pa · s	
25°C ²	3.0	Pa · s	
25°C ³	3.7	Pa · s	
Curing Time ⁴	40	hr	
Gel Time	20 to 30	min	

Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore A)	75 to 85		ASTM D2240
Tensile Strength	6.89	MPa	ASTM D638
Tensile Elongation at Break	190	%	ASTM D638
Tear Strength	26.3	kN/m	ASTM D624

NOTE

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| 1. | Hardener |
| 2. | Mixed |
| 3. | Resin |
| 4. | 24 hours at 77°F + 16 hours at 150°F |

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