

# RapidCast™ RC-542

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

RC-542 is a flame retardant elastomer formulated for room temperature meter-mix dispensing systems and short mold cycle times. Excellent physical properties can be obtained with a room temperature cure without the utilization of mercury, MOCA, or TDI. RC-542 conforms to UL94vO flame resistance and is yellow card certified. RC-542 exhibits a very low viscosity, allowing for better mold-flow.

General Information			
Features	Fast Molding Cycle		
	Flame Retardant		
	Low Viscosity		
RoHS Compliance	RoHS Compliant		
Appearance	Buff		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
Hardener	1.07	g/cm <sup>3</sup>	
Cured	1.14	g/cm <sup>3</sup>	
Base Resin	1.26	g/cm <sup>3</sup>	
Molding Shrinkage - Flow	0.10 to 0.50	%	ASTM D2566
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	1590	MPa	ASTM D790
Flexural Strength	60.7	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	27	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	89.0	°C	
1.8 MPa, Unannealed	80.0	°C	
Flammability	Nominal Value		Test Method
Flame Rating	V-0		UL 94
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
	Mix Ratio by Volume: 36		
Hardener	Mix Ratio by Weight: 31		

Mix Ratio by Weight: 100

Resin	Mix Ratio by Volume: 100		
Demold Time	10 to 20	min	
Uncured Properties	Nominal Value	Unit	Test Method
Viscosity			
25°C <sup>1</sup>	0.10	Pa·s	
25°C <sup>2</sup>	0.50	Pa·s	
25°C <sup>3</sup>	1.8	Pa·s	
Curing Time (25°C)	24	hr	
Gel Time	0.50 to 0.83	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	70 to 80		ASTM D2240
Tensile Strength	38.6	MPa	ASTM D638
Tensile Elongation at Break	11	%	ASTM D638
NOTE			
1.	Resin		
2.	Mixed		
3.	Hardener		

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