

# Royalcast® 3109

Polyurethane (Polyether based)

Chemtura

Message:

ROYALCAST 3109 is a two-component system that combines high modulus and hardness, good impact strength, and easy processing. Additionally, because ROYALCAST 3109 has a moderate demold time, mold turnabout can be high, thus minimizing tooling and direct labor cost. In summary, ROYALCAST 3109 with its good balance of physical properties and processing characteristics is an attractive material candidate for numerous end-use applications that require rigidity.

General Information			
Features	Good Impact Resistance		
	Good Processability		
	High Hardness		
	High Rigidity		
Appearance	Clear/Transparent		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm <sup>3</sup>	ASTM D792
Molding Shrinkage - Flow	2.2	%	Internal Method
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale, 20°C)	124		ASTM D785
Durometer Hardness			ASTM D2240
Shore D, 100°C	70		
Shore D, 70°C	79		
Shore D, 20°C	85		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	56.5	MPa	ASTM D638
Tensile Elongation (Break)	20	%	ASTM D638
Flexural Modulus	2210	MPa	ASTM D790
Flexural Strength	82.7	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-40°C	56	J/m	
20°C	85	J/m	
Unnotched Izod Impact			ASTM D256
-40°C	320	J/m	
20°C	480	J/m	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	76.0	°C	ASTM D648

Thermoset	Nominal Value	Unit
Thermoset Components		
Hardener	Mix Ratio by Weight: 33	
Resin	Mix Ratio by Weight: 100	
Pot Life	2.0	min
Demold Time	15	min
Post Cure Time (100°C)	16	hr

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#### Recommended distributors for this material

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