Innovative Polymers, Inc.
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Rapid Cast™

Product Name

RC-79D Polyurethane

Description

RC-79D is a tough, impact resistant 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-79D is approved for many medical applications including MRI coil housings and is a U.L. 94v0 registered flame retardant polyurethane.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)	**100:100**		
Mix Ratio	Resin:Hardener (parts by volume)	**87:100**		
Viscosity	Resin	600	**Gel Time**	55 ± 15 Seconds
(cps@77˚F)	Hardener	2700	**Demold Time**	12 ± 3 Minutes
	Mixed	1000	**Color**	Amber
Specific Gravity	Resin	1.38		
(g/cc)	Hardener	1.20		

Cured Properties

Cure 1 ► 24 hours at 77˚F + 16 hours @ 200˚F
Cure 2 ► 7 days at 77˚F

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	80 ± 5	85 ± 5
Tensile Strength (psi)	ASTM D-638	6,000	5,200
Elongation at Break	ASTM D-638	6%	5%
Compression Strength (psi)	ASTM D-695	N/A	N/A
Compression Modulus (psi)	ASTM D-695	N/A	N/A
Ultimate Flex Strength (psi)	ASTM D-790	10,000	10,500
Flexural Modulus (psi)	ASTM D-790	300,000	325,000
Notched Izod (ft.lbs./in.)	ASTM D-256	0.6	0.6
Linear Shrink (in./in.)	ASTM D-2566	N/A	0.002-0.004
Heat Deflection Temp. (66psi)	ASTM D-648	N/A	97˚C / 207˚F
Heat Deflection Temp. (264psi)	ASTM D-648	108˚C / 226˚F	87˚C / 189˚F
Specific Gravity (g/cc)		1.26	1.26

Processing Notes

RC-79D can be used at room temperature. Meter-mix equipment is recommended due to the short working-life of the formulation. RC-79D has been engineered for medical applications and is MRI transparent. The resin and hardener components of RC-79D will separate during storage. Mix thoroughly before use to ensure that the formula is homogeneous. The hardener component may also freeze. If this occurs, warm the material to approximately 125˚ F. until liquefied.

Agitate the hardener and resin before use to ensure that the formula is homogeneous

Safety and Handling

DO NOT USE UNTIL MSDS HAVE BEEN READ AND UNDERSTOOD. Store containers in a dry location. Partially used containers should be blanketed with dry nitrogen to prevent moisture contamination. Moisture will react with the resin component, creating carbon dioxide gas and a possible pressure increase in the container.
SPECIFICATION WRITERS: The above values are meant to represent typical properties only. Users are encouraged to qualify products in their own laboratories prior to specification publication.
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