

Dow CALIBRE™ MEGARAD™ 2081-15 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

CALIBRE™ MEGARAD™ 2081-15 resin is specially formulated to meet the radiation sterilization needs of the healthcare industry, while providing exceptional clarity, heat resistance, impact strength and processing. Applications: Hemodialyzers Surgical instruments Cardiotomy reservoirs Blood centrifuge bowls I.V. connectors Safety syringes Information provided by Dow

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-CALIBRE-MEGARAD-2081-15-Polycarbonate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Water Absorption	0.15 %	0.15 %	23°C, 24hrs; ASTM D570
Water Absorption at Saturation	0.32 %	0.32 %	23°C, 50% RH; ASTM D570
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Melt Flow	15 g/10 min @Load 1.20 kg, Temperature 300 °C	15 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	73	73	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength, Ultimate	67.6 MPa	9800 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ASTM D638
Elongation at Break	150 %	150 %	50 mm/min; ASTM D638
Tensile Modulus	2.21 GPa	320 ksi	50 mm/min; ASTM D638
Flexural Strength	96.5 MPa	14000 psi	3-points, 2 mm/min; ASTM D790
Flexural Modulus	2.41 GPa	350 ksi	3-points, 2 mm/min; ASTM D790
Izod Impact, Notched	7.47 J/cm	14.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Dart Drop, Total Energy	81.0 J	59.7 ft-lb	8000 ipm; ASTM D3763

Thermal Properties	Metric	English	Comments
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Thermal Properties CTE, linear	Metric 68.4 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	English 38.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Comments ASTM D696
	@Temperature -40.0 - 82.2 $^\circ\text{C}$	@Temperature -40.0 - 180 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	122 $^\circ\text{C}$	252 $^\circ\text{F}$	unannealed; ASTM D648
Vicat Softening Point	148 $^\circ\text{C}$	298 $^\circ\text{F}$	50 $^\circ\text{C}/\text{hr}$, 50N; ASTM D1525

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542
Haze	1.0 %	1.0 %	ASTM D1003
Transmission, Visible	89 %	89 %	ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	ASTM D257
Dielectric Constant	3.0	3.0	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
	3.0	3.0	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	16.5 kV/mm	420 kV/in	ASTM D149
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
	0.0020	0.0020	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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