

Styron CALIBRE[®],ç MEGARAD 2081-15 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Overview: CALIBRE[®],ç MEGARAD 2081-15 Polycarbonate resin provides end-users of radiation sterilized medical devices a color closer to the water-clear look of the natural resin. When exposed to high energy radiation (gamma or electron beam), CALIBRE MEGRAD 2081-15 resin can reduce the color shift by 50% compared to general purpose polycarbonate resins. CALIBRE 2081-15 resin has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. This product contains mold release. Main Characteristics:ISO 10993Applications:Medical applicationsInformation provided by Styron

Order this product through the following link:

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

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183/A; ASTM D792
Water Absorption	0.32 %	0.32 %	Equilibrium, 50% RH; ISO 62; ASTM D570
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Linear Mold Shrinkage, Flow	0.15 %	0.15 %	ISO 62; ASTM D570
	@Temperature 23.0 Å°C, Time 86400 sec	@Temperature 73.4 Å°F, Time 24.0 hour	
Melt Flow	15 g/10 min	15 g/10 min	ASTM D1238; ISO 1133
	@Load 1.20 kg, Temperature 300 Å°C	@Load 2.65 lb, Temperature 572 Å°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	68.0 MPa	9860 psi	ISO 527-2/50
	68.3 MPa	9910 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	62.0 MPa	8990 psi	ISO 527-2/50
	62.1 MPa	9010 psi	50 mm/min; ASTM D638
Elongation at Break	150 %	150 %	50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ASTM D638; ISO 527-2/50

Tensile Modulus Mechanical Properties	2.21 GPa Metric	321 ksi English	50 mm/min; ASTM D638 Comments
	2.30 GPa	334 ksi	ISO 527-2/50
Flexural Strength	96.5 MPa	14000 psi	Method I (3 point load), 2.0 mm/min; ASTM D790
	98.0 MPa	14200 psi	3-point, 2.0 mm/min; ISO 178
Flexural Modulus	2.40 GPa	348 ksi	3-point, 2.0 mm/min; ISO 178
	2.41 GPa	350 ksi	Method I (3 point load), 2.0 mm/min; ASTM D790
Izod Impact, Notched	7.50 J/cm @Temperature 23.0 Â°C	14.1 ft-lb/in @Temperature 73.4 Â°F	ASTM D256
Izod Impact, Notched (ISO)	75.0 kJ/mÂ² @Temperature 23.0 Â°C	35.7 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 180/A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	ASTM D256
Charpy Impact, Notched	2.50 J/cmÂ² @Temperature 23.0 Â°C	11.9 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 179/1eA
Tensile Impact Strength	378 kJ/mÂ²	180 ft-lb/inÂ²	ASTM D1822
Dart Drop, Total Energy	81.3 J	60.0 ft-lb	3.39 m/sec; ASTM D3763
Abrasion	45	45	[%] Taber; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.0 Âµm/m-Â°C @Temperature -40.0 - 82.0 Â°C	37.8 Âµin/in-Â°F @Temperature -40.0 - 180 Â°F	ASTM D696
Deflection Temperature at 0.46 MPa (66 psi)	139 Â°C	282 Â°F	Annealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	120 Â°C	248 Â°F	Unannealed; ISO 75-2/A
	122 Â°C	252 Â°F	Unannealed; ASTM D648
	136 Â°C	277 Â°F	Annealed; ISO 75-2/A
Vicat Softening Point	143 Â°C	289 Â°F	ISO 306/B50

Thermal Properties	148 Å°C Metric	298 Å°F English	Comments
	@Load 5.10 kg	@Load 11.2 lb	(°C/h); ASTM D1525

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542; ISO 489
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 60.0 Hz	@Frequency 60.0 Hz	
Dielectric Strength	3.0	3.0	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dissipation Factor	17.0 kV/mm	432 kV/in	ASTM D149
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 50.0 Hz	@Frequency 50.0 Hz	
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

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