

Styron CALIBRE® MEGARAD 2080 10 Polycarbonate, Gamma Radiation Resistant

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Gamma Radiation Resistant

Material Notes:

CALIBRE® MegaRad 2080 series resins provide 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 MegaRad 2080 series resins exhibit a 50% reduction in color shift compared to general purpose polycarbonate. Typical applications(1) are hemodialyzers, anesthesia containers, blood oxygenators, arterial filters, intravenous connectors, cardiotomy reservoirs, arteriograph manifolds, blood centrifuge bowls and physiological pressure transducers. Available Melt Flow Rates: 10, 15. Associated products: CALIBRE MegaRad 2080: without a mold release package CALIBRE MegaRad 2081: including a mold release package(1) NOTICE REGARDING LONG-TERM MEDICAL IMPLANT APPLICATIONS: The Dow Chemical Company does not recommend any medical resin or film product for long-term medical implant applications in humans (more than 72 hours). Further, Dow does not recommend the use of any medical resin or film product for cardiac prosthetic devices regardless of the time period that the device will be wholly or partially implanted in the body. Such applications include, but are not limited to, pacemaker leads and devices, cardiac prosthetic devices, such as artificial hearts, heart valves, intra-aortic balloon and control systems, and ventricular bypass assist devices. Dow does not recommend any nonmedical grade resin product for use in any human implant applications. Where available, biocompatibility data relates to resins, not necessarily to fabricated products. Manufacturers of medical devices, equipment and packaging are responsible for determining the suitability of resins for their intended use. Data provided by Dow Chemical. This product line was spun off from Dow Chemical to Styron in 2010.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-CALIBRE-MEGARAD-2080-10-Polycarbonate-Gamma-Radiation-Resistant.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ASTM Data
Linear Mold Shrinkage	0.0060 cm/cm	0.0060 in/in	
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM Data

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	71.0 MPa	10300 psi	ASTM Data
Tensile Strength, Yield	62.1 MPa	9010 psi	ASTM Data
Elongation at Break	150 %	150 %	ASTM Data
Elongation at Yield	6.0 %	6.0 %	ISO Data
Tensile Modulus	2.41 GPa	350 ksi	ASTM Data
Izod Impact, Notched	9.07 J/cm	17.0 ft-lb/in	ASTM Data

Impact Properties	Metric	English	Comments
Charpy Impact Unnotched	NB	NB	ISO Data
	NB	NB	ISO Data, Low Temp
Charpy Impact, Notched	1.30 J/cm ²	6.19 ft-lb/in ²	ISO Data, Low Temp
	9.00 J/cm ²	42.8 ft-lb/in ²	ISO Data
Tensile Impact Strength	589 kJ/m ²	280 ft-lb/in ²	ASTM Data
Impact Test	87.0 J @Temperature 23.0 °C	64.2 ft-lb @Temperature 73.4 °F	Instrumented Dart Total Energy

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 µm/m-°C @Temperature 20.0 °C	38.0 µin/in-°F @Temperature 68.0 °F	ASTM data
Deflection Temperature at 0.46 MPa (66 psi)	128 °C	262 °F	Unannealed; ASTM Data
Deflection Temperature at 1.8 MPa (264 psi)	124 °C	255 °F	ISO Data
Vicat Softening Point	156 °C	313 °F	
Oxygen Index	26 %	26 %	

Optical Properties	Metric	English	Comments
Haze	1.1 %	1.1 %	
Transmission, Visible	89 %	89 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	ASTM Data
Dielectric Constant	2.93 @Frequency 60 Hz	2.93 @Frequency 60 Hz	ASTM Data
	2.93 @Frequency 1e+6 Hz	2.93 @Frequency 1e+6 Hz	ASTM Data
Dielectric Strength	16.5 kV/mm	419 kV/in	
Dissipation Factor	0.00050	0.00050	

Electrical Properties	@Frequency 60 Hz Metric	@Frequency 60 Hz English	Comments
	0.0017	0.0017	ASTM Data
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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