

## Styron CALIBRE® MEGARAD 2080 15 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-2080-15-Polycarbonate-Gamma-Radiation-Resistant.php](http://www.lookpolymers.com/polymer_Styron-CALIBRE-MEGARAD-2080-15-Polycarbonate-Gamma-Radiation-Resistant.php)

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in <sup>3</sup>	ASTM Data
Water Absorption	0.15 %	0.15 %	
Moisture Absorption at Equilibrium	0.32 %	0.32 %	Humidity Absorption
Linear Mold Shrinkage	0.0060 cm/cm	0.0060 in/in	
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 Data

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	
Tensile Strength, Ultimate	67.6 MPa	9800 psi	ASTM Data
Tensile Strength, Yield	62.1 MPa	9010 psi	ASTM Data
Elongation at Break	150 %	150 %	ASTM Data

Elongation at Yield Mechanical Properties	Metric	English	ISO Data Comments
Tensile Modulus	2.21 GPa	321 ksi	ASTM Data
Izod Impact, Notched	7.47 J/cm	14.0 ft-lb/in	ASTM Data
Izod Impact, Unnotched	NB	NB	ASTM Data
Charpy Impact Unnotched	NB	NB	ISO Data
	NB	NB	ISO Data, Low Temp
Charpy Impact, Notched	1.20 J/cm <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	ISO Data, Low Temp
	8.00 J/cm <sup>2</sup>	38.1 ft-lb/in <sup>2</sup>	ISO Data
Tensile Impact Strength	378 kJ/m <sup>2</sup>	180 ft-lb/in <sup>2</sup>	ASTM Data
Impact Test	81.4 J @Temperature 23.0 °C	60.0 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 1.8 MPa (264 psi)	122 °C	252 °F	Unannealed; ASTM Data
Vicat Softening Point	148 °C	298 °F	

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	
	0.00050	0.00050	

<b>Electrical Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
	0.0017	0.0017	ASTM Data
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

## Contact Songhan Plastic Technology Co.,Ltd.

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