

Styron CALIBRE® 2071 15 Polycarbonate, Sterilization Grade

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

Material Notes:

CALIBRE® 2071 resins are designed for those applications which use steam or ethylene oxide for sterilization while providing enhanced mold release characteristics. This material has excellent retention of physical properties and optical clarity when exposed to ethylene oxide. For those applications which use steam sterilization or autoclaving, CALIBRE 2071 polycarbonate resin offers superior hydrolytic stability for a polycarbonate resin. Typical applications(1) are hemodialyzers, anesthesia containers, blood oxygenators, arterial filters, intravenous connectors, cardiectomy reservoirs, arteriograph manifolds, blood centrifuge bowls and physiological pressure transducers. Available Melt Flow Rate: 15.(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-2071-15-Polycarbonate-Sterilization-Grade.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	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	22 g/10 min @Load 1.20 kg, Temperature 300 °C	22 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	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

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	8.54 J/cm	16.0 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 ²	5.71 ft-lb/in ²	ISO Data, Low Temp
	8.00 J/cm ²	38.1 ft-lb/in ²	ISO Data
Tensile Impact Strength	462 kJ/m ²	220 ft-lb/in ²	ASTM Data
Impact Test	87.0 J @Temperature 23.0 Â°C	64.2 ft-lb @Temperature 73.4 Â°F	Instrumented Dart Total Energy

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 Âµm/m-Â°C @Temperature 20.0 Â°C	38.0 Âµin/in-Â°F @Temperature 68.0 Â°F	ASTM data
Deflection Temperature at 1.8 MPa (264 psi)	127 Â°C	261 Â°F	Unannealed; ASTM Data
Vicat Softening Point	154 Â°C	309 Â°F	
Flammability, UL94	V-2 @Thickness 3.20 mm	V-2 @Thickness 0.126 in	
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	2.93	ASTM Data

Electrical Properties	@Frequency 1e+6 Hz Metric	@Frequency 1e+6 Hz English	Comments
Dielectric Strength	16.5 kV/mm	419 kV/in	
Dissipation Factor	0.00050	0.00050	
	@Frequency 60 Hz	@Frequency 60 Hz	
	0.0017	0.0017	ASTM Data
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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