

Styron CALIBRE® 5101-8 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Overview: CALIBRE® 5101 Polycarbonate resins 10% glass-reinforced and provides increased modulus and improved heat distortion resistance with minimal shrinkage. This resin offers outstanding UL94 flammability ratings and contains mold release. CALIBRE 5101 is available in 8 and 15 melt flow rates. CALIBRE 5101 resin has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications.

Main Characteristics: Glass reinforced
Ignition resistant
ISO 10993 Applications: Information Technology Equipment
Telecommunications
Medical applications

Information provided by Styron

Order this product through the following link:
http://www.lookpolymers.com/polymer_Styron-CALIBRE-5101-8-Polycarbonate-Resin.php

Physical Properties	Metric	English	Comments
Density	1.27 g/cc	0.0459 lb/in ³	ISO 1183/B; ASTM D792
Water Absorption	0.25 %	0.25 %	Equilibrium, 50% RH; ISO 62; ASTM D570
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.15 %	0.15 %	ISO 62; ASTM D570
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0020 - 0.0050 cm/cm	0.0020 - 0.0050 in/in	ISO 294-4; ASTM D955
Melt Flow	8.0 g/10 min	8.0 g/10 min	ISO 1133; ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	62	62	ASTM D785
Hardness, Rockwell R	122	122	ASTM D785
Tensile Strength at Break	60.7 MPa	8800 psi	50 mm/min; ASTM D638
	61.0 MPa	8850 psi	ISO 527-2/50
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	6.0 %	6.0 %	50 mm/min; ISO 527-2/50; ASTM D638

Tensile Modulus Mechanical Properties	3.38 GPa Metric	490 ksi English	ISO 527-2/50; ASTM D638 Comments
Flexural Strength	93.8 MPa	13600 psi	Method I (3 point load), 2.0 mm/min; ISO 178; ASTM D790
Flexural Modulus	3.17 GPa	460 ksi	Method I (3 point load), 2.0 mm/min; ISO 178; ASTM D790
Izod Impact, Notched (ISO)	80.0 kJ/m ² @Temperature 23.0 Â°C	38.1 ft-lb/in ² @Temperature 73.4 Â°F	ASTM D256
Tensile Impact Strength	147 kJ/m ²	69.9 ft-lb/in ²	ASTM D1822
Dart Drop, Total Energy	40.1 J	29.6 ft-lb	3.39 m/sec; ASTM D3763

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)	144 Â°C	291 Â°F	Annealed; ISO 75-2/B; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	134 Â°C	273 Â°F	Unannealed; ISO 75-2/A; ASTM D648
Vicat Softening Point	160 Â°C @Load 5.10 kg	320 Â°F @Load 11.2 lb	Rate A (50Â°C/h); ISO 306/B50; ASTM D1525
Flammability, UL94	V-2 @Thickness 1.59 mm	V-2 @Thickness 0.0626 in	
	V-0 @Thickness 3.20 mm	V-0 @Thickness 0.126 in	
Oxygen Index	32 %	32 %	ISO 4289-2

Descriptive Properties	Value	Comments
Average Extent of Burring	1 cm	ASTM D635

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