

Technical Information



CALIBRE™ 5201S-12

Polycarbonate Resin

Overview

CALIBRE™ 5201S-12 polycarbonate resin is 20% glass reinforced and contains silicone for improved lubricity. This resin exhibits high modulus and excellent dimensional stability. CALIBRE 5201S-12 has been tested according to ISO 10993 (Biological Evaluation of Medical Devices). It is suitable for radiation, ethylene oxide, and steam sterilization as needed in the health care industry.

Main Characteristics:

- Tested under ISO 10993
- Lubricious

Applications:

- Medical applications
- Surgical device handles

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.36 g/cm ³	1.36 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	12 g/10 min	12 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage			ASTM D955
Flow	3.0E-3 to 4.0E-3 in/in	0.30 to 0.40 %	
Across Flow	5.0E-3 to 6.0E-3 in/in	0.50 to 0.60 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- ¹	856000 psi	5900 MPa	ASTM D638
--	812000 psi	5600 MPa	ISO 527-1/1
Tensile Strength			
Yield ²	12300 psi	84.5 MPa	ASTM D638
Yield	12600 psi	87.0 MPa	ISO 527-2/5
Break ²	12100 psi	83.4 MPa	ASTM D638
Break	12300 psi	85.0 MPa	ISO 527-2/5
Tensile Elongation			
Yield ²	3.5 %	3.5 %	ASTM D638
Yield	3.2 %	3.2 %	ISO 527-2/5
Break ²	3.7 %	3.7 %	ASTM D638
Break	3.5 %	3.5 %	ISO 527-2/5
Flexural Modulus			
--	783000 psi	5400 MPa	ASTM D790
-- ³	783000 psi	5400 MPa	ISO 178
Flexural Strength			
--	18700 psi	129 MPa	ASTM D790
-- ³	19600 psi	135 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C)	1.6 ft-lb/in	85 J/m	ASTM D256
73°F (23°C)	10 ft-lb/in ²	21 kJ/m ²	ISO 180/1A

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	289 °F	143 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	280 °F	138 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	282 °F	139 °C	ISO 75-2/A
Vicat Softening Temperature			
--	311 °F	155 °C	ASTM D1525 ⁴
--	295 °F	146 °C	ISO 306/B50
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	248 °F	120 °C	
Drying Time	4.0 hr	4.0 hr	
Suggested Max Moisture	0.020 %	0.020 %	
Processing (Melt) Temp	545 to 599 °F	285 to 315 °C	
Mold Temperature	176 to 230 °F	80 to 110 °C	

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ 0.039 in/min (1.0 mm/min)

² 0.20 in/min (5.0 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ Rate B (120°C/h), Loading 1 (10 N)

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