

Technical Information



CALIBRE™ 2060-6

Polycarbonate Resin

Overview

CALIBRE™ 2060-6 Polycarbonate resin is used in medical applications involving steam or ethylene oxide sterilization - though suitability for use in these applications is dependent upon autoclave cycle times and temperatures. CALIBRE 2060-6 provides exceptional clarity, heat resistance, impact strength, and processability, and has low contamination levels. The CALIBRE 2000 series of resins have been evaluated by certain biocompatibility tests based on ISO 10993-1 (Biological Evaluation of Medical Devices) and are suitable for use in approved medical applications.

Main Characteristics:

- Tested under ISO 10993 and USP
- FDA 21 CFR 177.1580

Applications:

- Medical applications
- Injection or Extrusion Applications

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0 g/10 min	6.0 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955 ISO 294-4
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.32 %	0.32 %	
Equilibrium, 73°F (23°C), 50% RH	0.12 %	0.12 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- ¹	350000 psi	2410 MPa	ASTM D638
--	334000 psi	2300 MPa	ISO 527-1/1
Tensile Strength			
Yield ²	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break ²	10400 psi	72.0 MPa	ASTM D638
Break	10400 psi	72.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield ²	6.0 %	6.0 %	ASTM D638
Break ²	140 %	140 %	ASTM D638
Break	150 %	150 %	ISO 527-2/50
Flexural Modulus			
--	350000 psi	2410 MPa	ASTM D790
-- ³	348000 psi	2400 MPa	ISO 178
Flexural Strength			
--	14000 psi	96.5 MPa	ASTM D790
-- ³	14100 psi	97.0 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	6.7 ft-lb/in ²	14 kJ/m ²	
73°F (23°C)	26 ft-lb/in ²	55 kJ/m ²	
Notched Izod Impact			
73°F (23°C)	17 ft-lb/in	910 J/m	ASTM D256
73°F (23°C)	44 ft-lb/in ²	93 kJ/m ²	ISO 180/1A
Instrumented Dart Impact ⁴			ASTM D3763
73°F (23°C), Total Energy	800 in-lb	90.4 J	
Tensile Impact Strength	280 ft-lb/in ²	588 kJ/m ²	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73	73	
R-Scale	118	118	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	293 °F	145 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	264 °F	129 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	259 °F	126 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	288 °F	142 °C	ASTM D648
Vicat Softening Temperature	304 °F	151 °C	ASTM D1525 ⁵
CLTE - Flow			
-40 to 176°F (-40 to 80°C)	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696
--	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	ISO 11359-2
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ASTM D542 ISO 489
Light Transmittance	87.0 to 91.0 %	87.0 to 91.0 %	ASTM D1003
Haze	< 1.00 %	< 1.00 %	ASTM D1003
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	248 °F	120 °C	
Drying Time	4.0 hr	4.0 hr	
Processing (Melt) Temp	554 to 626 °F	290 to 330 °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 2.0 in/min (50 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ 11.1 ft/sec (3.39 m/sec)

⁵ Rate B (120°C/h), Loading 1 (10 N)

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