

CALIBRE™ 2061-3 Polycarbonate Resin

Overview

CALIBRE™ 2061-3 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 2061-3 provides exceptional clarity, heat resistance, impact strength, and processability, and has low contamination levels. CALIBRE 2061 has been evaluated by certain biocompatibility tests based on ISO 10993-1 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. This product contains mold release.

Main Characteristics

- Tested under ISO 10993

Applications

- Medical 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/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	3.5 g/10 min	3.5 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			ASTM D570 ISO 62
24 hr, 73°F (23°C)	0.15 %	0.15 %	
Equilibrium, 73°F (23°C), 50% RH	0.32 %	0.32 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- ¹	360000 psi	2480 MPa	ASTM D638
--	360000 psi	2480 MPa	ISO 527-2/50
Tensile Strength			
Yield ¹	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break ¹	10400 psi	72.0 MPa	ASTM D638
Break	10500 psi	72.4 MPa	ISO 527-2/50
Tensile Elongation			
Break ¹	150 %	150 %	ASTM D638
Break	150 %	150 %	ISO 527-2/50
Flexural Modulus			
-- ²	350000 psi	2410 MPa	ASTM D790
-- ^{3,4}	350000 psi	2410 MPa	ISO 178
Flexural Strength			
-- ²	14000 psi	96.5 MPa	ASTM D790
-- ^{3,4}	13900 psi	96.0 MPa	ISO 178
Taber Abrasion Resistance	45 %	45 %	ASTM D1044
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C)	18 ft-lb/in	960 J/m	ASTM D256
73°F (23°C)	44 ft-lb/in ²	93 kJ/m ²	ISO 180/A
Unnotched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D256 ISO 180

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Instrumented Dart Impact ⁵ 73°F (23°C), Total Energy	830 in·lb	93.8 J	ASTM D3763
Tensile Impact Strength	300 ft·lb/in ²	630 kJ/m ²	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	74	74	
R-Scale	118	118	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	295 °F	146 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	270 °F	132 °C	ASTM D648 ISO 75-2/A
264 psi (1.8 MPa), Annealed	289 °F	143 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	304 °F	151 °C	ISO 306/B50 ASTM D1525 ⁶
CLTE - Flow (-40 to 180°F (-40 to 82°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.12 in (3.0 mm)	HB	HB	
0.030 in (0.75 mm)	V-2	V-2	
0.06 in (1.5 mm)	V-2	V-2	

Notes

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

¹ 2.0 in/min (50 mm/min)

² Method I (3 point load), 0.079 in/min (2.0 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ 3-points

⁵ 11.1 ft/sec (3.39 m/sec)

⁶ Rate A (50°C/h), Loading 2 (50 N)



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