

CALIBRE™ 2061-6

Polycarbonate Resin

Overview

CALIBRE™ 2061-6 resin is suitable for steam and ethylene oxide sterilization required by the health care industry. CALIBRE 2061-6 provides excellent heat resistance, impact strength, and processability. CALIBRE 2061-6 resin has been tested according to ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. This product contains mold release and is currently available in black color.

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
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0 g/10 min	6.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
Water Absorption			ASTM D570
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	350000 psi	2410 MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	9000 psi	62.1 MPa	
Break	9900 psi	68.3 MPa	
Tensile Elongation ²			ASTM D638
Yield	6.0 %	6.0 %	
Break	150 %	150 %	
Flexural Modulus ³	350000 psi	2410 MPa	ASTM D790
Flexural Strength ³	14000 psi	96.5 MPa	ASTM D790
Taber Abrasion Resistance	45 %	45 %	ASTM D1044
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	16 ft-lb/in	850 J/m	ASTM D256
Unnotched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D256
Instrumented Dart Impact			ASTM D3763
73°F (23°C), Total Energy	790 in-lb	89.3 J	
Tensile Impact Strength (73°F (23°C))	270 ft-lb/in ²	567 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			ASTM D648
66 psi (0.45 MPa), Annealed	293 °F	145 °C	
264 psi (1.8 MPa), Unannealed	265 °F	129 °C	
264 psi (1.8 MPa), Annealed	288 °F	142 °C	
Vicat Softening Temperature	312 °F	156 °C	ASTM D1525 ⁴
CLTE - Flow (-40 to 180°F (-40 to 82°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	2.0E+17 ohms-cm	2.0E+17 ohms-cm	ASTM D257
Dielectric Strength	420 V/mil	17 kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.00	3.00	
1 MHz	3.00	3.00	
Dissipation Factor			ASTM D150
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
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	
Oxygen Index ⁵	26 %	26 %	ISO 4589-2
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	250 °F	121 °C	
Drying Time	3.0 hr	3.0 hr	
Suggested Max Moisture	0.020 %	0.020 %	
Suggested Max Regrind	25 %	25 %	
Rear Temperature	520 to 550 °F	271 to 288 °C	
Middle Temperature	530 to 570 °F	277 to 299 °C	
Front Temperature	570 to 620 °F	299 to 327 °C	
Nozzle Temperature	570 to 620 °F	299 to 327 °C	
Processing (Melt) Temp	570 to 620 °F	299 to 327 °C	
Mold Temperature	170 to 230 °F	77 to 110 °C	
Screw Speed	40 to 70 rpm	40 to 70 rpm	
Clamp Tonnage	2.0 to 5.0 tons/in ²	2.8 to 6.9 kN/cm ²	
Screw L/D Ratio	15.0:1.0	15.0:1.0	
Screw Compression Ratio	1.5:1.0 to 3.0:1.0	1.5:1.0 to 3.0:1.0	