

# CALIBRE™ 2061-15

## Polycarbonate Resin

### Overview

CALIBRE™ 2061-15 resin is suitable for steam and ethylene oxide sterilization required by the health care industry. CALIBRE 2061-15 provides exceptional clarity, heat resistance, impact strength, processability, and has low contamination levels. CALIBRE 2061-15 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.

Main Characteristics:

- Tested under ISO 10993

Applications:

- Medical applications

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm <sup>3</sup>	1.20 g/cm <sup>3</sup>	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15 g/10 min	15 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			
-- <sup>1</sup>	320000 psi	2210 MPa	ASTM D638
--	334000 psi	2300 MPa	ISO 527-1/1
Tensile Strength			
Yield <sup>2</sup>	8700 psi	60.0 MPa	ASTM D638
Yield	8990 psi	62.0 MPa	ISO 527-2/50
Break <sup>2</sup>	10300 psi	71.0 MPa	ASTM D638
Break	10300 psi	71.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield <sup>2</sup>	6.0 %	6.0 %	ASTM D638
Yield	6.0 %	6.0 %	ISO 527-2/50
Break <sup>2</sup>	130 %	130 %	ASTM D638
Break	130 %	130 %	ISO 527-2/50
Flexural Modulus			
--	350000 psi	2410 MPa	ASTM D790
-- <sup>3</sup>	348000 psi	2400 MPa	ISO 178
Flexural Strength			
--	14000 psi	96.5 MPa	ASTM D790
-- <sup>3</sup>	14100 psi	97.0 MPa	ISO 178

<b>Impact</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	5.7 ft-lb/in <sup>2</sup>	12 kJ/m <sup>2</sup>	
73°F (23°C)	12 ft-lb/in <sup>2</sup>	25 kJ/m <sup>2</sup>	
Notched Izod Impact			
73°F (23°C)	14 ft-lb/in	750 J/m	ASTM D256
73°F (23°C)	39 ft-lb/in <sup>2</sup>	83 kJ/m <sup>2</sup>	ISO 180/1A
Instrumented Dart Impact <sup>4</sup>			ASTM D3763
73°F (23°C), Total Energy	720 in-lb	81.3 J	
Tensile Impact Strength	220 ft-lb/in <sup>2</sup>	462 kJ/m <sup>2</sup>	ASTM D1822
<b>Hardness</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Rockwell Hardness			ASTM D785
M-Scale	73	73	
R-Scale	118	118	
<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	280 °F	138 °C	ASTM D648
66 psi (0.45 MPa), Annealed	289 °F	143 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	261 °F	127 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	255 °F	124 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	284 °F	140 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature			
--	302 °F	150 °C	ASTM D1525 <sup>5</sup>
--	289 °F	143 °C	ISO 306/B50
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
<b>Electrical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Volume Resistivity			
--	2.0E+17 ohms-cm	2.0E+17 ohms-cm	ASTM D257
--	1.0E+15 ohms-cm	1.0E+15 ohms-cm	IEC 60093
Dielectric Strength			
--	420 V/mil	17 kV/mm	ASTM D149
--	430 V/mil	17 kV/mm	IEC 60243-1
Dielectric Constant			
60 Hz	3.00	3.00	ASTM D150
1 MHz	3.00	3.00	ASTM D150 IEC 60250
100 Hz	3.00	3.00	IEC 60250
Dissipation Factor			
50 Hz	1.0E-3	1.0E-3	ASTM D150
1 MHz	2.0E-3	2.0E-3	ASTM D150 IEC 60250
100 Hz	1.0E-3	1.0E-3	IEC 60250
<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating <sup>6</sup>			UL 94
0.12 in (3.0 mm)	HB	HB	
0.030 in (0.75 mm)	V-2	V-2	
0.11 in (2.8 mm)	V-2	V-2	

<b>Optical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
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

  

<b>Injection</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>
Drying Temperature	248 °F	120 °C
Drying Time	4.0 hr	4.0 hr
Processing (Melt) Temp	527 to 563 °F	275 to 295 °C
Mold Temperature	158 to 194 °F	70 to 90 °C