

# CALIBRE™ 5201-12

## Polycarbonate Resin

### Overview

CALIBRE™ 5201-12 polycarbonate resin is 20% glass reinforced containing mold release for optimal processing. This resin exhibits high modulus and excellent dimensional stability. CALIBRE 5201-12 resin is typically used in medical market applications. CALIBRE 5201-12 resin has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications.

Main Characteristics:

- Glass reinforced
- Ignition resistant
- Tested under ISO 10993

Applications:

- Medical applications
- Handheld surgical devices
- Powered medical devices
- Equipment housings
- Electrical components

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.36 g/cm <sup>3</sup>	1.36 g/cm <sup>3</sup>	ASTM D792 ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	12 g/10 min	12 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 4.0E-3 in/in	0.20 to 0.40 %	ASTM D955 ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- <sup>1</sup>	750000 psi	5170 MPa	ASTM D638
--	750000 psi	5170 MPa	ISO 527-2/50
Tensile Strength			
Yield <sup>1</sup>	12000 psi	82.7 MPa	ASTM D638
Yield	12000 psi	82.7 MPa	ISO 527-2/50
Break <sup>1</sup>	12000 psi	82.7 MPa	ASTM D638
Break	12000 psi	82.7 MPa	ISO 527-2/50
Tensile Elongation			
Yield <sup>1</sup>	2.6 %	2.6 %	ASTM D638
Yield	2.6 %	2.6 %	ISO 527-2/50
Break <sup>1</sup>	3.0 %	3.0 %	ASTM D638
Break	2.6 %	2.6 %	ISO 527-2/50
Flexural Modulus			
-- <sup>2</sup>	700000 psi	4830 MPa	ASTM D790
-- <sup>3</sup>	699000 psi	4820 MPa	ISO 178
Flexural Strength			
-- <sup>2</sup>	21500 psi	148 MPa	ASTM D790
-- <sup>3</sup>	21500 psi	148 MPa	ISO 178

<b>Impact</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Notched Izod Impact 73°F (23°C), 0.126 in (3.20 mm)	2.0 ft-lb/in	110 J/m	ASTM D256
Instrumented Dart Impact <sup>4</sup> 73°F (23°C), 0.126 in (3.20 mm), Total Energy	410 in-lb	46.3 J	ASTM D3763
<b>Hardness</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Rockwell Hardness (R-Scale)	122	122	ASTM D785
<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), Annealed	299 °F	148 °C	ASTM D648
66 psi (0.45 MPa), Annealed	298 °F	148 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	280 °F	138 °C	ASTM D648 ISO 75-2/A
264 psi (1.8 MPa), Annealed	288 °F	142 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature			
--	318 °F	159 °C	ASTM D1525 <sup>5</sup>
--	316 °F	158 °C	ISO 306/B50
<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating <sup>6</sup>			UL 94
0.06 in (1.6 mm)	V-2	V-2	
0.12 in (3.0 mm)	V-0	V-0	

## Notes

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

<sup>1</sup> 2.0 in/min (50 mm/min)

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

<sup>3</sup> 0.079 in/min (2.0 mm/min)

<sup>4</sup> 11.1 ft/sec (3.39 m/sec)

<sup>5</sup> Rate A (50°C/h), Loading 2 (50 N)

<sup>6</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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