

# CALIBRE™ 5101-8

## Polycarbonate Resin

### Overview

CALIBRE™ 5101 Polycarbonate resin is 10% glass-reinforced and provides increased modulus and improved heat distortion resistance with minimal shrinkage. This resin offers outstanding UL94 flammability ratings and contains mold release. CALIBRE 5101 is available in 8 and 15 melt flow rates. CALIBRE 5101 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

- Information Technology Equipment
- Telecommunications
- Medical applications

#### Automotive Specifications

- FORD WSS-M4D309-C
- GM GMP.PC.017

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.27 g/cm <sup>3</sup>	1.27 g/cm <sup>3</sup>	ASTM D792 ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0 g/10 min	8.0 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 5.0E-3 in/in	0.20 to 0.50 %	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	0.25 %	0.25 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- <sup>1</sup>	490000 psi	3380 MPa	ASTM D638
--	490000 psi	3380 MPa	ISO 527-2/50
Tensile Strength			
Yield <sup>1</sup>	9000 psi	62.1 MPa	ASTM D638
Yield	8990 psi	62.0 MPa	ISO 527-2/50
Break <sup>1</sup>	8800 psi	60.7 MPa	ASTM D638
Break	8850 psi	61.0 MPa	ISO 527-2/50
Tensile Elongation			
Break <sup>1</sup>	6.0 %	6.0 %	ASTM D638
Break	6.0 %	6.0 %	ISO 527-2/50
Flexural Modulus			
-- <sup>2</sup>	460000 psi	3170 MPa	ASTM D790
-- <sup>3</sup>	460000 psi	3170 MPa	ISO 178
Flexural Strength			
-- <sup>2</sup>	13600 psi	93.8 MPa	ASTM D790
-- <sup>3</sup>	13600 psi	94.0 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))	1.5 ft-lb/in	80 J/m	ASTM D256
Instrumented Dart Impact <sup>4</sup> 73°F (23°C), Total Energy	355 in-lb	40.1 J	ASTM D3763
Tensile Impact Strength	70.0 ft-lb/in <sup>2</sup>	147 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	62	62	
R-Scale	122	122	
<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	291 °F	144 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	273 °F	134 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	320 °F	160 °C	ISO 306/B50 ASTM D1525 <sup>5</sup>
CLTE - Flow (-40 to 180°F (-40 to 82°C))	2.1E-5 in/in/°F	3.8E-5 cm/cm/°C	ASTM D696
<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	
0.13 in (3.2 mm)	V-0	V-0	
Oxygen Index <sup>6</sup>	32 %	32 %	ISO 4589-2
Average Extent of Burning	1 in	1 cm	ASTM D635