

CALIBRE™ 5101-15

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 ³	1.27 g/cm ³	ASTM D792 ISO 1183/B
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	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			
-- ¹	490000 psi	3380 MPa	ASTM D638
--	490000 psi	3380 MPa	ISO 527-2/50
Tensile Strength			
Yield ¹	9000 psi	62.1 MPa	ASTM D638
Yield	8990 psi	62.0 MPa	ISO 527-2/50
Break ¹	8800 psi	60.7 MPa	ASTM D638
Break	8850 psi	61.0 MPa	ISO 527-2/50
Tensile Elongation			
Break ¹	6.0 %	6.0 %	ASTM D638
Break	6.0 %	6.0 %	ISO 527-2/50
Flexural Modulus			
-- ²	460000 psi	3170 MPa	ASTM D790
-- ³	460000 psi	3170 MPa	ISO 178
Flexural Strength			
-- ²	13600 psi	93.8 MPa	ASTM D790
-- ³	13600 psi	94.0 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	1.5 ft-lb/in	80 J/m	ASTM D256
Instrumented Dart Impact ⁴ 73°F (23°C), Total Energy	355 in-lb	40.1 J	ASTM D3763
Tensile Impact Strength	70.0 ft-lb/in ²	147 kJ/m ²	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	62	62	
R-Scale	122	122	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
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 ⁵
CLTE - Flow (-40 to 180°F (-40 to 82°C))	2.1E-5 in/in/°F	3.8E-5 cm/cm/°C	ASTM D696
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁶			UL 94
0.06 in (1.6 mm)	V-2	V-2	
0.13 in (3.2 mm)	V-0	V-0	
Oxygen Index ⁶	32 %	32 %	ISO 4589-2
Average Extent of Burning	1 in	1 cm	ASTM D635

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 11.1 ft/sec (3.39 m/sec)

⁵ Rate A (50°C/h), Loading 2 (50 N)

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



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