

CALIBRE™ 5101-8

Polycarbonate Resin
Trinseo

Message:

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

General Information			
UL YellowCard	E54680-469973		
Filler / Reinforcement	Glass Fiber,10% Filler by Weight		
Additive	Mold Release		
Features	Biocompatible		
	Flame Retardant		
Uses	Medical/Healthcare Applications		
Agency Ratings	ISO 10993 3		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.27	g/cm³	ASTM D792, ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.20 to 0.50	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570, ISO 62
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.25	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	62		
R-Scale	122		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3380	MPa	ASTM D638
--	3380	MPa	ISO 527-2/50
Tensile Strength			

Yield ²	62.1	MPa	ASTM D638
Yield	62.0	MPa	ISO 527-2/50
Break ³	60.7	MPa	ASTM D638
Break	61.0	MPa	ISO 527-2/50
Tensile Elongation			
Break ⁴	6.0	%	ASTM D638
Break	6.0	%	ISO 527-2/50
Flexural Modulus			
-- ⁵	3170	MPa	ASTM D790
-- ⁶	3170	MPa	ISO 178
Flexural Strength			
-- ⁷	93.8	MPa	ASTM D790
-- ⁸	94.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	80	J/m	ASTM D256
Instrumented Dart Impact ⁹ (23°C, Total Energy)	40.1	J	ASTM D3763
Tensile Impact Strength	147	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	144	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	134	°C	ASTM D648, ISO 75-2/A
Vicat Softening Temperature	160	°C	ISO 306/B50, ASTM D1525 ¹⁰
CLTE - Flow (-40 to 82°C)	3.8E-5	cm/cm/°C	ASTM D696
Flammability	Nominal Value	Unit	Test Method
Flame Rating ¹¹			UL 94
1.59 mm	V-2		
3.20 mm	V-0		
Oxygen Index ¹²	32	%	ISO 4589-2
Average Extent of Burning	1	cm	ASTM D635
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	50 mm/min		
5.	Method I (3 point load), 2.0 mm/min		
6.	2.0 mm/min		
7.	Method I (3 point load), 2.0 mm/min		
8.	2.0 mm/min		
9.	3.39 m/sec		

10.	Rate A (50°C/h), Loading 2 (50 N)
11.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.
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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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