

CALIBRE™ 5201-8

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 5201-8 polycarbonate resin is 20% glass reinforced containing mold release for optimal processing. This resin exhibits high modulus and excellent dimensional stability. CALIBRE 5201-8 resin is typically used in electrical market applications. CALIBRE 5201-8 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:

- Electrical boxes
- Lighting components
- Electrical connectors
- Medical applications

General Information			
UL YellowCard	E54680-469975		
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Additive	Mold Release		
Features	Biocompatible		
	Flame Retardant		
	Good Dimensional Stability		
	Good Processability		
Uses	Electrical/Electronic Applications		
	Lighting Applications		
	Medical/Healthcare Applications		
Agency Ratings	ISO 10993 3		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.36	g/cm³	ASTM D792, ISO 1183/B
--	1330	kg/m³	ISO 1183 ¹
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0	g/10 min	ASTM D1238, ISO 1133
Melt volume-flow rate (300°C/1.2 kg)	12.0	cm³/10min	ISO 1133 ²
Molding Shrinkage - Flow	0.20 to 0.40	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	122		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			

-- ³	5170	MPa	ASTM D638
--	5170	MPa	ISO 527-2/50
--	5000	MPa	ISO 527-2 ⁴
Tensile Strength			
Yield ⁵	82.7	MPa	ASTM D638
Yield	83.0	MPa	ISO 527-2/50
Yield	60.0	MPa	ISO 527-2 ⁶
Break ⁷	82.7	MPa	ASTM D638
Break	83.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁸	2.6	%	ASTM D638
Yield	2.6	%	ISO 527-2/50
Yield	2.0	%	ISO 527-2 ⁹
Break ¹⁰	3.0	%	ASTM D638
Break	3.0	%	ISO 527-2/50
Nominal strain at break	30	%	ISO 527-2 ¹¹
Flexural Modulus			
-- ¹²	4830	MPa	ASTM D790
-- ¹³	4820	MPa	ISO 178
Flexural Strength			
-- ¹⁴	148	MPa	ASTM D790
-- ¹⁵	148	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA ¹⁶
-30°C	10.0	kJ/m ²	
23°C	12.0	kJ/m ²	
Charpy impact strength			ISO 179/1eU ¹⁷
-30°C	70.0	kJ/m ²	
23°C	No Break		
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Instrumented Dart Impact ¹⁸ (23°C, Total Energy)	46.3	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	148	°C	ASTM D648, ISO 75-2/B
0.45 MPa	151	°C	ISO 75-2 ¹⁹
1.8 MPa, Unannealed	138	°C	ASTM D648, ISO 75-2/A
1.8 MPa, Annealed	142	°C	ASTM D648, ISO 75-2/A
1.8 MPa	147	°C	ISO 75-2 ²⁰
Vicat Softening Temperature			
--	159	°C	ASTM D1525 ²¹
--	158	°C	ISO 306/B50

50°C/h, B (50N)	155	°C	ISO 306 ²²
CLTE - Flow	2.9E-5	cm/cm/°C	ISO 11359-2 ²³
Flammability	Nominal Value		Test Method
Flame Rating ²⁴			UL 94
1.59 mm	V-2		
3.05 mm	V-0		
Burning Behav. at 1.6mm nom. thickn. (1.60 mm, UL)	V-2		ISO 1210 ²⁵
Burning Behav. at thickness h (3.20 mm, UL)	V-2		ISO 1210 ²⁶
NOTE			
1.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
2.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
3.	50 mm/min		
4.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
5.	50 mm/min		
6.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
7.	50 mm/min		
8.	50 mm/min		
9.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
10.	50 mm/min		
11.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
12.	Method I (3 point load), 2.0 mm/min		
13.	2.0 mm/min		
14.	Method I (3 point load), 2.0 mm/min		
15.	2.0 mm/min		
16.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
17.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
18.	3.39 m/sec		

19.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
20.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
21.	Rate A (50°C/h), Loading 2 (50 N)
22.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
23.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
24.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.
25.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
26.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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Recommended distributors for this material

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

