

CALIBRE™ 201-10

Polycarbonate Resin
Trinseo

Message:

CALIBRE™ 201-10 is produced in compliance with the US Food and Drug Administration (FDA) and EU food contact regulations. It provides excellent impact resistance, heat distortion resistance and optical clarity. CALIBRE 201-10 product is formulated with mold release.

Govt. and Industry Standards:
U.S. FDA 21 CFR 177.1580
Underwriters Laboratory (UL)
EU food contact 2002/72/EC

Applications:
Food and processor housings
Liquid containers
Food utensils
Packaging applications

General Information			
UL YellowCard	E54680-469960	E157291-238219	E206114-228275
Additive	Mold Release		
Features	Food Contact Acceptable		
	High Clarity		
	High Impact Resistance		
Uses	Containers		
	Housings		
	Kitchenware		
	Packaging		
Agency Ratings	EU 2002/72/EC		
	FDA 21 CFR 177.1580		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Density			
--	1.20	g/cm ³	ISO 1183/A
--	1200	kg/m ³	ISO 1183 ¹
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ISO 1133
Melt volume-flow rate (300°C/1.2 kg)	8.00	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2300	MPa	ISO 527-2/50, ISO 527-2 3 ³

Tensile Stress			
Yield	60.0	MPa	ISO 527-2/50, ISO 527-2 ⁴
Break	71.0	MPa	ISO 527-2/50
Tensile Strain			
Yield	6.0	%	ISO 527-2/50, ISO 527-2 ⁵
Break	150	%	ISO 527-2/50
Nominal strain at break	> 50	%	ISO 527-2 ⁶
Flexural Modulus ⁷	2400	MPa	ISO 178
Flexural Stress ⁸	97.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA ⁹
-30°C	13.0	kJ/m ²	
23°C	90.0	kJ/m ²	
Charpy impact strength			ISO 179/1eU ¹⁰
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength (23°C)	88	kJ/m ²	ISO 180/4A
Unnotched Izod Impact Strength (23°C)	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Annealed	144	°C	ISO 75-2/B
0.45 MPa	145	°C	ISO 75-2 ¹¹
1.8 MPa, Unannealed	125	°C	ISO 75-2/A
1.8 MPa, Annealed	141	°C	ISO 75-2/A
1.8 MPa	131	°C	ISO 75-2 ¹²
Vicat Softening Temperature			
--	149	°C	ISO 306/B50
50°C/h, B (50N)	149	°C	ISO 306 ¹³
Ball Indentation Temperature	125	°C	IEC 60335-1
CLTE - Flow	7.0E-5	cm/cm/°C	ISO 11359-2 ¹⁴
Electrical	Nominal Value	Unit	Test Method
Volume resistivity	> 1.0E+13	ohms · m	IEC 60093 ¹⁵
Electric strength	17	kV/mm	IEC 60243-1 ¹⁶
Relative Permittivity			IEC 60250 ¹⁷
100 Hz	3.00		
1 MHz	3.00		
Dissipation Factor			IEC 60250 ¹⁸
100 Hz	1.0E-3		
1 MHz	2.0E-3		
Comparative Tracking Index (2.00 mm)	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating ¹⁹			UL 94

1.60 mm	HB		
3.20 mm	HB		
Burning Behav. at 1.6mm nom. thickn. (1.60 mm, UL)	HB		ISO 1210 ²⁰
Burning Behav. at thickness h (3.20 mm, UL)	HB		ISO 1210 ²¹
Oxygen index	26	%	ISO 4589-2 ²²
Optical	Nominal Value	Unit	Test Method
Transmittance	87.0 to 91.0	%	ASTM D1003
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.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
4.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
5.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
6.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
7.	2.0 mm/min		
8.	2.0 mm/min		
9.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
10.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
11.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
12.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
13.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
14.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
15.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		

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.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
19.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.
20.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
21.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
22.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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