

CALIBRE™ 200-10

Polycarbonate Resin
Trinseo

Message:

CALIBRE™ 200-10 Series are produced in compliance with the US Food and Drug Administration (FDA) and EU food contact regulations. They provide excellent impact resistance, heat distortion resistance and optical clarity. The CALIBRE 200-10 series products are available in 2 additive packages: CALIBRE 200: No mold release or UV Stabilizer. CALIBRE 201: 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
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		
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
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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