

CALIBRE™ 200-3

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 200-3 polycarbonate resin is produced in compliance with the US Food and Drug Administration (FDA) and EU food contact regulations. This resin provides excellent impact resistance, heat distortion resistance and optical clarity as well as high melt strength for sheet extrusion applications. Available in natural color only.

Main Characteristics:

- U.S. FDA 21 CFR 177.1580
- CSA
- NSF
- Underwriters Laboratory (UL)
- EU food contact 2002/72/EC

Applications:

- Small appliances
- Sheet and profile extrusion
- Housewares

General Information			
UL YellowCard	E54680-469960	E157291-238219	E206114-228275
Features	Food Contact Acceptable		
	Good Melt Strength		
	High Clarity		
	High Impact Resistance		
Uses	Appliances		
	Household Goods		
	Sheet		
Agency Ratings	CSA Unspecified Rating		
	EU 2002/72/EC		
	FDA 21 CFR 177.1580		
	NSF Unspecified Rating		
Appearance	Natural Color		
Forms	Pellets		
Multi-Point Data	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	3.0	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570, ISO 62
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	74		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2480	MPa	ASTM D638
--	2480	MPa	ISO 527-2/50
Tensile Strength			
Yield ²	60.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break ³	72.4	MPa	ASTM D638
Break	72.0	MPa	ISO 527-2/50
Tensile Elongation			
Break ⁴	150	%	ASTM D638
Break	150	%	ISO 527-2/50
Flexural Modulus			
-- ⁵	2410	MPa	ASTM D790
-- ⁶	2410	MPa	ISO 178
Flexural Strength			
-- ⁷	96.5	MPa	ASTM D790
-- ⁸	96.0	MPa	ISO 178
Taber Abrasion Resistance	45	%	ASTM D1044
Average Extent of Burning	3	cm	ASTM D635
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	960	J/m	ASTM D256
23°C	93	kJ/m ²	ISO 180/A
Unnotched Izod Impact (23°C)	No Break		ASTM D256, ISO 180
Instrumented Dart Impact ⁹ (23°C, Total Energy)	93.8	J	ASTM D3763
Tensile Impact Strength	630	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	146	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	132	°C	ASTM D648, ISO 75-2/A
1.8 MPa, Annealed	143	°C	ASTM D648, ISO 75-2/A
Vicat Softening Temperature	151	°C	ISO 306/B50, ASTM D1525 ¹⁰
CLTE - Flow (-40 to 82°C)	6.8E-5	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	2.0E+17	ohms · cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149, IEC 60243-1

Dielectric Constant		ASTM D150	
60 Hz	3.00		
1 MHz	3.00		
Dissipation Factor		ASTM D150	
60 Hz	1.0E-3		
1 MHz	2.0E-3		
Flammability	Nominal Value	Unit	Test Method
Flame Rating ¹¹			UL 94
1.60 mm	HB		
3.20 mm	HB		
Oxygen Index ¹²	26	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542, ISO 489
Transmittance	89.0	%	ASTM D1003
Haze	1.0	%	ASTM D1003
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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