CALIBRE™ 200-3
Polycarbonate Resin

Overview

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 2011/10/EC

Applications:

- Small appliances
- Sheet and profile extrusion
- Housewares

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.20	g/cm³	1.20	g/cm³	ASTM D792 ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	3.0	g/10 min	3.0	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	0.50 to 0.70	%	ASTM D955 ISO 294-4
Water Absorption					ASTM D570 ISO 62
24 hr, 73°F (23°C)	0.15	%	0.15	%	
Equilibrium, 73°F (23°C), 50% RH	0.32	%	0.32	%	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus					
-- [1]	360000	psi	2480	MPa	ASTM D638
--	360000	psi	2480	MPa	ISO 527-2/50
Tensile Strength					
Yield [1]	8700	psi	60.0	MPa	ASTM D638
Yield	8700	psi	60.0	MPa	ISO 527-2/50
Break [1]	10500	psi	72.4	MPa	ASTM D638
Break	10400	psi	72.0	MPa	ISO 527-2/50
Tensile Elongation					
Break [1]	150	%	150	%	ASTM D638
Break	150	%	150	%	ISO 527-2/50
Flexural Modulus					
-- [2]	350000	psi	2410	MPa	ASTM D790
-- [3]	350000	psi	2410	MPa	ISO 178
Flexural Strength					
-- [2]	14000	psi	96.5	MPa	ASTM D790
-- [3]	13900	psi	96.0	MPa	ISO 178
Taber Abrasion Resistance	45	%	45	%	ASTM D1044

Impact	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Notched Izod Impact					
73°F (23°C)	18	ft·lb/in	960	J/m	ASTM D256
73°F (23°C)	44	ft·lb/in²	93	kJ/m²	ISO 180/A
Unnotched Izod Impact (73°F (23°C))	No Break		No Break		ASTM D256 ISO 180
Instrumented Dart Impact [4]					ASTM D3763
73°F (23°C), Total Energy	830	in·lb	93.8	J	
Tensile Impact Strength	300	ft·lb/in²	630	kJ/m²	ASTM D1822
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness					ASTM D785
M-Scale	74		74		
R-Scale	118		118		
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Annealed	295	°F	146	°C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	270	°F	132	°C	ASTM D648 ISO 75-2/A
264 psi (1.8 MPa), Annealed	289	°F	143	°C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	304	°F	151	°C	ISO 306/B50 ASTM D1525 [5]
CLTE - Flow (-40 to 180°F (-40 to 82°C))	3.8E-5	in/in/°F	6.8E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Volume Resistivity	2.0E+17	ohms·cm	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength					
--	420	V/mil	17	kV/mm	ASTM D149
--	430	V/mil	17	kV/mm	IEC 60243-1
Dielectric Constant					ASTM D150
60 Hz	3.00		3.00		
1 MHz	3.00		3.00		
Dissipation Factor					ASTM D150
60 Hz	1.0E-3		1.0E-3		
1 MHz	2.0E-3		2.0E-3		
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [6]					UL 94
0.06 in (1.6 mm)	HB		HB		
0.13 in (3.2 mm)	HB		HB		
Oxygen Index [6]	26	%	26	%	ISO 4589-2
Average Extent of Burning	1	in	3	cm	ASTM D635
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Refractive Index	1.586		1.586		ASTM D542 ISO 489
Transmittance	89.0	%	89.0	%	ASTM D1003
Haze	1.00	%	1.00	%	ASTM D1003

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] 2.0 in/min (50 mm/min)

[2] Method I (3 point load), 0.079 in/min (2.0 mm/min)

[3] 0.079 in/min (2.0 mm/min)

[4] 11.1 ft/sec (3.39 m/sec)

[5] Rate A (50°C/h), Loading 2 (50 N)

[6] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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