



CALIBRE™ 200-14

Trinseo - Polycarbonate Resin

Tuesday, November 5, 2019

General Information

Product Description

CALIBRE™ 200-14 polycarbonate resin is a natural, FDA compliant, 14 melt flow rate general purpose polycarbonate resin with no mold release or UV stabilizer.

Govt. and Industry Standards:

- U.S. FDA 21 CFR 177.1580
- CSA
- Underwriters Laboratory (UL)
- EU food contact 2011/10/EC

Applications

- Food processors
- Beverage containers
- Food utensils
- Other packaging applications

General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• Food Contact Acceptable		
Uses	• Appliances • Containers	• General Purpose • Kitchenware	• Packaging
Agency Ratings	• CSA Unspecified Rating	• EU 2011/10/EC	• FDA 21 CFR 177.1580
Forms	• Pellets		
Processing Method	• Injection Molding	• Sheet Extrusion	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm ³	ISO 1183/A
Melt Mass-Flow Rate (300°C/1.2 kg)	14	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	14	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	12	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Water Absorption (24 hr, 73°F)	0.15	%	ASTM D570
Water Absorption (24 hr, 73°F)	0.15	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	340000	psi	ASTM D638
Tensile Modulus	334000	psi	ISO 527-2/50
Tensile Strength ² (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength ² (Break)	10300	psi	ASTM D638

CALIBRE™ 200-14

Trinseo - Polycarbonate Resin

Mechanical	Nominal Value	Unit	Test Method
Tensile Stress (Break)	10300	psi	ISO 527-2/50
Tensile Elongation ² (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ² (Break)	150	%	ASTM D638
Tensile Strain (Break)	150	%	ISO 527-2/50
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/50
Flexural Modulus ³	350000	psi	ASTM D790
Flexural Modulus ⁴	348000	psi	ISO 178
Flexural Strength ³	14000	psi	ASTM D790
Flexural Stress ⁴	14100	psi	ISO 178
Taber Abrasion Resistance	45	%	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	5.7	ft·lb/in ²	
73°F	38	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact (73°F)	16	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	39	ft·lb/in ²	ISO 180/A
Unnotched Izod Impact (73°F)	No Break		ASTM D256
Unnotched Izod Impact Strength (73°F)	No Break		ISO 180
Instrumented Dart Impact ⁵ (73°F, Total Energy)	770	in·lb	ASTM D3763
Tensile Impact Strength	220	ft·lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	72		
R-Scale	118		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Annealed)	289	°F	ASTM D648
Heat Deflection Temperature (66 psi, Annealed)	289	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	260	°F	
Heat Deflection Temperature (264 psi, Unannealed)	261	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi, Annealed)	284	°F	ASTM D648
Heat Deflection Temperature (264 psi, Annealed)	284	°F	ISO 75-2/A
Vicat Softening Temperature	298	°F	ASTM D1525 ⁶
Vicat Softening Temperature	298	°F	ISO 306/B50
Ball Indentation Temperature	257	°F	IEC 60335-1
CLTE - Flow (-40 to 180°F)	3.8E-5	in/in/°F	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	2.0E+18	ohms·cm	ASTM D257
Dielectric Strength	420	V/mil	ASTM D149
Electric Strength	430	V/mil	IEC 60243-1
Dielectric Constant			ASTM D150
60 Hz	3.00		
1 MHz	3.00		

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Electrical	Nominal Value	Unit	Test Method
Dissipation Factor			ASTM D150
50 Hz	1.0E-3		
1 MHz	2.0E-3		
Comparative Tracking Index (0.0787 in, Solution A)	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁷			UL 94
0.06 in	HB		
0.13 in	HB		
Glow Wire Ignition Temperature ⁷ (0.08 in, 5.0 sec)	1560	°F	IEC 60695-2-13
Oxygen Index ⁷	26	%	ISO 4589-2
Average Extent of Burning	1	in	ASTM D635
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Refractive Index	1.586		ISO 489
Transmittance	89.0	%	ASTM D1003
Haze	1.00	%	ASTM D1003

Notes

¹ Typical properties: these are not to be construed as specifications.

² 2.0 in/min

³ Method I (3 point load), 0.079 in/min

⁴ 0.079 in/min

⁵ 11.1 ft/sec

⁶ Rate A (50°C/h), Loading 2 (50 N)

⁷ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.