



Celanex® 3200-2FC

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 3200-2FC is a general purpose, 15% glass reinforced polybutylene terephthalate with a good balance of mechanical properties and processability for use in food contact applications. Celanex 3200-2FC contains an internal lubricant.

General

Material Status	• Commercial: Active
Availability	• Europe • North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight
Additive	• Lubricant
Features	• Food Contact Acceptable • Good Processability • Lubricated • General Purpose • High Flow
Uses	• General Purpose • Non-specific Food Applications
RoHS Compliance	• Contact Manufacturer

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.41		ASTM D792
Density	1.41	g/cm ³	ISO 1183
Melt Mass-Flow Rate	26	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	26	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 (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ASTM D638
-40°F	930000	psi	
32°F	900000	psi	
73°F	800000	psi	
176°F	355000	psi	
250°F	300000	psi	
Tensile Modulus	841000	psi	ISO 527-2/1A/1
Tensile Strength			ASTM D638
Break, -40°F	15700	psi	
Break, 32°F	15200	psi	
Break, 73°F	13500	psi	
Break, 176°F	8000	psi	
Break, 250°F	6500	psi	
Tensile Stress (Break)	14500	psi	ISO 527-2/1A/5
Tensile Elongation			ASTM D638
Break, -40°F	1.9	%	
Break, 32°F	2.0	%	
Break, 73°F	3.0	%	
Break, 176°F	6.3	%	
Break, 250°F	6.3	%	

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Break)	3.5	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	754000	psi	ISO 178
Flexural Stress (73°F)	21800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.4	ft·lb/in ²	
73°F	2.6	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	9.5	ft·lb/in ²	
73°F	9.5	ft·lb/in ²	
Notched Izod Impact Strength (73°F)	2.4	ft·lb/in ²	ISO 180/1A
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	90		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	415	°F	ASTM D648
Heat Deflection Temperature (66 psi, Unannealed)	419	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	378	°F	
Heat Deflection Temperature (264 psi, Unannealed)	383	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	194	°F	ISO 75-2/C
Glass Transition Temperature ²	140	°F	ISO 11357-2
Vicat Softening Temperature	419	°F	ISO 306/B50
Peak Melting Temperature	437	°F	ASTM D3418
Melting Temperature ²	437	°F	ISO 11357-3
CLTE - Flow	2.2E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	6.1E-5	in/in/°F	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (Method A (Short-Time))	460	V/mil	ASTM D149
Electric Strength	740	V/mil	IEC 60243-1
Dielectric Constant (1 MHz)	3.50		ASTM D150
Relative Permittivity			IEC 60250
100 Hz	4.20		
1 MHz	3.80		
Dissipation Factor (1 MHz)	1.0E-3		ASTM D150
Dissipation Factor			IEC 60250
100 Hz	1.6E-3		
1 MHz	0.020		
Comparative Tracking Index	350	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.028 in)	HB		UL 94
Oxygen Index	20	%	ISO 4589-2

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248 to 266	°F

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Injection	Nominal Value	Unit
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	68 to 122	°F
Rear Temperature	446 to 464	°F
Middle Temperature	455 to 482	°F
Front Temperature	455 to 482	°F
Nozzle Temperature	482 to 500	°F
Processing (Melt) Temp	455 to 500	°F
Mold Temperature	149 to 199	°F
Injection Rate	Moderate-Fast	

Injection Notes

Manifold Temperature: 250 to 260°C
Zone 4 Temperature: 240 to 260°C
Feed Temperature: 230 to 240°C

Notes

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

² 10°C/min