



Celanex® 3200

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 3200 is a general purpose, 15% glass reinforced polybutylene terephthalate with a good balance of mechanical properties and processability.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight		
Features	• General Purpose	• Good Processability	
Uses	• General Purpose		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D5927 TPES011 G15 Color: Black • ASTM D5927 TPES011 G15 Color: Natural • CHRYSLER MS-DB-400 CPN2403 Color: Natural • DELCO 9599-01 Color: Black	• DELCO 9599-48 Color: Natural • DELPHI DX300129 • FORD ESF-M4D341-C • GM GMP.PBT.006 Color: Black	• GM GMP.PBT.006 Color: Natural • VALEO VMS-2884 Color: Black • VALEO VMS-2884 Color: Natural

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	26	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.90	%	
Flow	0.10 to 0.70	%	
Water Absorption (Saturation, 73°F)	0.45	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.17	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	841000	psi	ISO 527-2/1A
Tensile Stress (Break)	14500	psi	ISO 527-2/1A/5
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
Shore Hardness (Shore D, 15 sec)	82		ISO 868

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	419	°F	ISO 75-2/B
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
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+15	ohms·cm	IEC 60093
Electric Strength	740	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	4.20		
1 MHz	3.80		
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
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Suggested Max Regrind	25	%
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	
Back Pressure	0.00 to 50.0	psi

Injection Notes

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

Notes

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

² 10°C/min