Celanex® 3100-2

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 3100 is a general purpose, 7.5% glass reinforced polybutylene terephthalate with a good balance of mechanical properties and processability. Celanex 3100 is a high flow material.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 7.5% Filler by Weight		
Features	• General Purpose	• Good Processability	• High Flow
Uses	• General Purpose		
RoHS Compliance	• Contact Manufacturer		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.35	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	14	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	18	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.0 to 1.4	%	
Flow	0.60 to 1.0	%	
Water Absorption (Saturation, 73°F)	0.60	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (Break)	11300	psi	ISO 527-2/1A/5
Tensile Strain (Break)	8.0	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	515000	psi	ISO 178
Flexural Stress (73°F)	15200	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.6	ft·lb/in²	
73°F	2.9	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	90	ft·lb/in²	
73°F	No Break		
Notched Izod Impact Strength (73°F)	1.8	ft·lb/in²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	11	ft·lb/in²	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (66 psi, Unannealed)	403	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	289	°F	ISO 75-2/A
Glass Transition Temperature [2]	140	°F	ISO 11357-2
Vicat Softening Temperature	365	°F	ISO 306/B50
Melting Temperature [2]	437	°F	ISO 11357-3
CLTE - Flow	7.2E-5	in/in/°F	ISO 11359-2

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+13	ohms·cm	IEC 60093
Electric Strength	580	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	4.00		
1 MHz	3.60		
Dissipation Factor			IEC 60250
100 Hz	1.3E-3		
1 MHz	0.020		

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.028 in)	HB		UL 94
Oxygen Index	22	%	ISO 4589-2

Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.11	g/cm³	Internal Method
Melt Thermal Conductivity	0.91	Btu·in/hr/ft²/°F	Internal Method
Ejection Temperature	426	°F	
Specific Heat Capacity of Melt	0.471	Btu/lb/°F	

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