

Celanex® 3300-2USFDA

Polybutylene Terephthalate

Celanese Corporation

Message:

Celanex 3300-2USFDA is a general purpose, 30% glass reinforced, polybutylene terephthalate that offers a superior combination of mechanical, electrical, and thermal properties for US FDA applications. This grade provides outstanding processability and good chemical resistance. Celanex 3300-2USFDA is a high flow material that contains an internal lubricant.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Additive	Lubricant		
Features	Workability, good		
	Good electrical performance		
	High liquidity		
	Good chemical resistance		
	Lubrication		
	General		
Uses	General		
Agency Ratings	FDA not rated		
RoHS Compliance	Contact manufacturer		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.53	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)	16	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	17.0	cm³/10min	ISO 1133
Molding Shrinkage			
Flow	0.30 - 0.50	%	ASTM D955
Transverse flow	0.70 - 1.1	%	ISO 294-4
Flow	0.30 - 0.70	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.20	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	90		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-40°C	11000	MPa	ASTM D638
0°C	10500	MPa	ASTM D638
23°C	9650	MPa	ASTM D638
80°C	4830	MPa	ASTM D638
121°C	3760	MPa	ASTM D638

--	9200	MPa	ISO 527-2/1A/1
Tensile Strength			
Fracture, -40°C	190	MPa	ASTM D638
Fracture, 0°C	159	MPa	ASTM D638
Fracture, 23°C	134	MPa	ASTM D638
Fracture, 80°C	77.2	MPa	ASTM D638
Fracture, 121°C	61.4	MPa	ASTM D638
Fracture	130	MPa	ISO 527-2/1A/5
Tensile Elongation			
Fracture, -40°C	1.9	%	ASTM D638
Fracture, 0°C	1.9	%	ASTM D638
Fracture, 23°C	2.0	%	ASTM D638
Fracture, 80°C	3.9	%	ASTM D638
Fracture, 121°C	4.3	%	ASTM D638
Fracture	2.5	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	9700	MPa	ISO 178
Flexural Stress (23°C)	210	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	8.5	kJ/m ²	ISO 179/1eA
23°C	8.5	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	45	kJ/m ²	ISO 179/1eU
23°C	46	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	7.5	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	228	°C	ASTM D648
0.45 MPa, not annealed	225	°C	ISO 75-2/B
1.8 MPa, not annealed	206	°C	ASTM D648
1.8 MPa, not annealed	205	°C	ISO 75-2/A
8.0 MPa, not annealed	150	°C	ISO 75-2/C
Glass Transition Temperature ¹	60.0	°C	ISO 11357-2
Vicat Softening Temperature	220	°C	ISO 306/B50
Melting Temperature ²	225	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	2.5E-5	cm/cm/°C	ISO 11359-2
Lateral	1.0E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity			
--	1.0E+15	ohms · cm	ASTM D257

--	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength			
-- ³	22	kV/mm	ASTM D149
--	31	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.70		ASTM D150
100 Hz	4.50		IEC 60250
1 MHz	4.10		IEC 60250
Dissipation Factor			
1 MHz	2.0E-3		ASTM D150
100 Hz	2.2E-3		IEC 60250
1 MHz	0.016		IEC 60250
Comparative Tracking Index	425	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.71 mm)	HB		UL 94
Oxygen Index	20	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	120 - 130	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	20 - 50	°C	
Rear Temperature	230 - 240	°C	
Middle Temperature	235 - 250	°C	
Front Temperature	235 - 250	°C	
Nozzle Temperature	250 - 260	°C	
Processing (Melt) Temp	235 - 260	°C	
Mold Temperature	65 - 93	°C	
Injection Rate	Moderate-Fast		
Injection instructions			
Manifold Temperature: 250 to 260°CZone 4 Temperature: 240 to 260°CFeed Temperature: 230 to 240°C			
NOTE			
1.	10°C/min		
2.	10°C/min		
3.	Method A (short time)		

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