

Celanex® 3300D

Polybutylene Terephthalate

Celanese Corporation

Message:

Celanex 3300D is a general purpose, 30% glass reinforced, polybutylene terephthalate that offers a superior combination of mechanical, electrical, and thermal properties. This grade provides outstanding processability and good chemical resistance.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	Workability, good		
	High liquidity		
	Good chemical resistance		
	General		
Uses	General		
RoHS Compliance	Contact manufacturer		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.53	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)	16	g/10 min	ASTM D1238
Molding Shrinkage			
Flow	0.30 - 0.50	%	ASTM D955
Vertical flow direction	0.70 - 1.1	%	ISO 294-4
Flow direction	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
Heat Deflection Temperature			
0.45 MPa, not annealed	225	°C	ISO 75-2/B
0.45 MPa, annealed	228	°C	ASTM D648
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	0.016		ASTM D150, IEC 60250
100 Hz	2.2E-3		IEC 60250
Comparative Tracking Index	425	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.710 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	%	
Suggested Max Regrind	25	%	
Hopper Temperature	20.0 - 50.0	°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	65.0 - 93.0	°C	
Injection Rate	Moderate-Fast		
Back Pressure	0.00 - 0.345	MPa	
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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