

Celanex® 2500

Polybutylene Terephthalate

Celanese Corporation

Message:

Chemical abbreviation according to ISO 1043-1: PBT
Moulding compound ISO 7792- PBT, MGHR, 08-030N
Polybutylene terephthalate, easy flow, nucleated grade
Flammability UL 94 HB Minimum thickness 1.0 mm.
Recognition by Underwriters Laboratories, USA (UL)

General Information			
UL YellowCard	E42337-234664		
Additive	Nucleating agent		
Features	Nucleated		
	Good liquidity		
RoHS Compliance	Contact manufacturer		
Multi-Point Data	Isochronous Stress vs. Strain (ISO 11403-1)		
	Isothermal Stress vs. Strain (ISO 11403-1)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
	Shear Stress vs. Shear Rate (ISO 11403-1)		
Resin ID (ISO 1043)	PBT		
Physical	Nominal Value	Unit	Test Method
Density	1.31	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	40.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	1.8 - 2.0	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2700	MPa	ISO 527-2/1A/1
Tensile Stress			ISO 527-2/1A/50
Yield	60.0	MPa	ISO 527-2/1A/50
Fracture	60.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	4.0	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	15	%	ISO 527-2/1A/50
Tensile Creep Modulus			ISO 899-1
1 hr	2400	MPa	ISO 899-1
1000 hr	1600	MPa	ISO 899-1
Flexural Stress (23°C)	90.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength			ISO 179/1eA
-30°C	4.5	kJ/m ²	ISO 179/1eA
23°C	5.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	130	kJ/m ²	ISO 179/1eU
23°C	140	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	160	°C	ISO 75-2/B
1.8 MPa, not annealed	60.0	°C	ISO 75-2/A
Vicat Softening Temperature	190	°C	ISO 306/B50
Melting Temperature ¹	225	°C	ISO 11357-3
CLTE - Flow	1.1E-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	IEC 60093
Dielectric Strength	23	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.90		IEC 60250
1 MHz	3.80		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	1.3E-3		IEC 60250
1 MHz	0.020		IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.00 mm	HB		UL 94
1.49 mm	HB		UL 94
Oxygen Index	22	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Density of Melt	1.110	g/cm ³	Internal method
Ejection Temperature	219	°C	Internal method
Specific Heat Capacity of Melt	1920	J/kg/°C	Internal method
Thermal Conductivity of Melt	0.13	W/m/K	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	120 - 140	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	20.0 - 50.0	°C	
Rear Temperature	240 - 250	°C	
Middle Temperature	240 - 250	°C	
Front Temperature	245 - 255	°C	

Nozzle Temperature	250 - 260	°C
Processing (Melt) Temp	250 - 260	°C
Mold Temperature	75.0 - 85.0	°C
Injection Pressure	60.0 - 100	MPa
Injection Rate	Fast	
Holding Pressure	40.0 - 80.0	MPa
Back Pressure	1.00 - 3.00	MPa

Injection instructions

Manifold Temperature: 250 to 260°C Zone 4 Temperature: 245 to 255°C Feed Temperature: 190 to 200°C

NOTE

- 10°C/min

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