



Celanex® 2001

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 2001 is an unreinforced polybutylene terephthalate resin with improved hydrolysis resistance developed for use in fiber optic buffer tube applications. Celanex 2001 exhibits the high melt strength required for profile extrusion.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• High Melt Strength	• Hydrolysis Resistant	
Uses	• Profiles		
RoHS Compliance	• Contact Manufacturer		
Processing Method	• Profile Extrusion		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.31	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	7.5	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.8 to 2.0	%	
Flow	1.8 to 2.0	%	
Water Absorption (Saturation, 73°F)	0.45	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.19	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	377000	psi	ISO 527-2/1A
Tensile Stress (Yield)	8700	psi	ISO 527-2/1A/50
Tensile Stress (Break)	5370	psi	ISO 527-2/1A/50
Tensile Stress (50% Strain)	4790	psi	ISO 527-2/1A/50
Tensile Strain (Yield)	6.0	%	ISO 527-2/1A/50
Tensile Strain (Break)	200	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	363000	psi	ISO 178
Flexural Stress (73°F)	11600	psi	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.0	ft-lb/in ²	
73°F	3.3	ft-lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength (73°F)	2.6	ft-lb/in ²	ISO 180/1A

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	72		ISO 2039-2
Shore Hardness (Shore D, 15 sec)	79		ISO 868

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	302	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	122	°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
CLTE - Transverse	4.9E-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	380	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.00		
1 MHz	3.20		
Dissipation Factor (1 MHz)	0.020		IEC 60250
Comparative Tracking Index	600	V	IEC 60112

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