

Celanex® 2001FC

Polybutylene Terephthalate

Celanese Corporation

Message:

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

General Information			
Features	Good melt strength		
	Hydrolysis resistance		
	Compliance of Food Exposure		
Uses	Non-specific food applications		
RoHS Compliance	Contact manufacturer		
Processing Method	Profile extrusion molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)	6.5	g/10 min	ASTM D1238
Molding Shrinkage			
Flow	1.8 - 2.0	%	ASTM D955
Vertical flow direction	1.8 - 2.0	%	ISO 294-4
Flow direction	1.8 - 2.0	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.19	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	72		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2600	MPa	ISO 527-2/1A/1
Tensile Strength			
Yield, 23°C	55.2	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/1A/50
Fracture	37.0	MPa	ISO 527-2/1A/50
50% strain	33.0	MPa	ISO 527-2/1A/50
Tensile Strain			
Yield	6.0	%	ISO 527-2/1A/50
Fracture, 23°C	200	%	ASTM D638
Fracture	200	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	2500	MPa	ISO 178
Flexural Stress (23°C)	80.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength			ISO 179/1eA
-30°C	4.2	kJ/m ²	ISO 179/1eA
23°C	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact (23°C)	5.5	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	150	°C	ISO 75-2/B
1.8 MPa, not annealed	50.0	°C	ISO 75-2/A
Glass Transition Temperature ¹	60.0	°C	ISO 11357-2
Vicat Softening Temperature	185	°C	ISO 306/B50
Melting Temperature ²	225	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.3E-4	cm/cm/°C	ISO 11359-2
Lateral	8.8E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity			
--	1.0E+17	ohms·cm	ASTM D257
--	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength			
-- ³	16	kV/mm	ASTM D149
--	15	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.20		ASTM D150, IEC 60250
100 Hz	3.00		IEC 60250
Dissipation Factor			
1 MHz	2.0E-3		ASTM D150
1 MHz	0.020		IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	120 - 130	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.020	%	
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	

Injection instructions

Manifold Temperature: 250 to 260°C Zone 4 Temperature: 240 to 260°C Feed Temperature: 230 to 240°C

NOTE

1.	10°C/min
2.	10°C/min
3.	Method A (short time)

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