



Celanex® 2016

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 2016 is a non-exuding flame retarded (UL and CSA approved V-0 at 1/32 inch and 5V at 1/8 inch), unreinforced polybutylene terephthalate which has an excellent balance of mechanical properties and processability. It is well suited for electrical connector applications where UL approved 50% regrind use capability makes maximum use of purchased product.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Flame Retardant		
Features	• Flame Retardant	• Good Processability	• Non-Exuding
Uses	• Connectors		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• CHRYSLER MS-DB-400 CPN3945 Color: Color as Noted on Drawing		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.44	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	25	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	18	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.2 to 1.6	%	
Flow	1.2 to 1.6	%	
Water Absorption (Saturation, 73°F)	0.45	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.17	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	435000	psi	ISO 527-2/1A
Tensile Stress (Yield)	8700	psi	ISO 527-2/1A/50
Tensile Strain (Yield)	3.0	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	10	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	450000	psi	ISO 178
Flexural Stress (73°F)	13800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.1	ft·lb/in ²	
73°F	1.9	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	26	ft·lb/in ²	
73°F	26	ft·lb/in ²	
Notched Izod Impact Strength (73°F)	2.1	ft·lb/in ²	ISO 180/1A
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	79		ISO 2039-2
Shore Hardness (Shore D, 15 sec)	81		ISO 868
Ball Indentation Hardness ²	23200	psi	ISO 2039-1

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	329	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	154	°F	ISO 75-2/A
Glass Transition Temperature ³	140	°F	ISO 11357-2
Vicat Softening Temperature	374	°F	ISO 306/B50
Melting Temperature ³	437	°F	ISO 11357-3
CLTE - Flow	3.5E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	4.3E-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	640	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.60		
1 MHz	3.50		
Dissipation Factor			IEC 60250
100 Hz	4.7E-3		
1 MHz	0.019		
Arc Resistance	117	sec	Internal Method
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.030 in	V-0		
0.12 in	5VA		
Oxygen Index	30	%	ISO 4589-2

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248 to 266	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Suggested Max Re grind	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 30s

³ 10°C/min