



Celanex® 3216

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 3216 is a non-exuding (UL and CSA approved V-0 at 1/32 inch and 5V at 1/8 inch), 15% fiberglass reinforced polybutylene terephthalate which has an excellent balance of mechanical properties and processability. It is well suited for electrical connector applications where its UL approved 50% regrind use capability allows maximum use of purchased product.

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • Asia Pacific • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight
Features	• Good Processability • Non-Exuding
Uses	• Connectors
RoHS Compliance	• Contact Manufacturer
Automotive Specifications	• CHRYSLER MS-DB-400 CPN3765 Color: Color as Noted on Drawing

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.54	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	18	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.1	%	
Flow	0.30 to 0.60	%	
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.17	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	972000	psi	ISO 527-2/1A
Tensile Stress (Break)	14500	psi	ISO 527-2/1A/5
Tensile Strain (Break)	3.0	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	870000	psi	ISO 178
Flexural Stress (73°F)	22500	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.9	ft-lb/in ²	
73°F	2.9	ft-lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	13	ft-lb/in ²	
73°F	13	ft-lb/in ²	
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)	87		ISO 2039-2
Shore Hardness (Shore D, 15 sec)	82		ISO 868

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	423	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	369	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	203	°F	ISO 75-2/C
Glass Transition Temperature ²	140	°F	ISO 11357-2
Vicat Softening Temperature	403	°F	ISO 306/B50
Melting Temperature ²	437	°F	ISO 11357-3
CLTE - Flow	2.0E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	5.6E-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	760	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.70		
1 MHz	3.50		
Dissipation Factor			IEC 60250
100 Hz	3.3E-3		
1 MHz	0.016		
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.015 in	V-0		
0.12 in	5VA		
Oxygen Index	27 to 32	%	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	50	%
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 491	°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 255°C
Feed Temperature: 230 to 240°C
Zone 4 Temperature: 240 to 255°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min