Celanex® 4016

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Non-exuding, unfilled, flame retardant polybutylene terephthalate which has an excellent balance of mechanical properties and processability. Celanex 4016 is well suited for applications requiring improved toughness.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Flame Retardant		
Features	• Flame Retardant • Good Processability	• Good Toughness • Non-Exuding	
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• CHRYSLER MS-DB-400 CPN3945 Color: Color As Noted On Drawing • CHRYSLER MS-DB-400 CPN3946 Color: Color As Noted On Drawing		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.45	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	8.7	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.7 to 1.9	%	
Flow	1.7 to 1.9	%	
Water Absorption (Saturation, 73°F)	0.080	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.16	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	406000	psi	ISO 527-2/1A
Tensile Stress (Yield)	7980	psi	ISO 527-2/1A/50
Tensile Strain (Yield)	3.7	%	ISO 527-2/1A/50
Tensile Strain (Break)	38	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	38	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	381000	psi	ISO 178
Flexural Stress (73°F)	11000	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	3.9	ft·lb/in²	
73°F	3.9	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	50	ft·lb/in²	
73°F	120	ft·lb/in²	
Notched Izod Impact Strength (73°F)	3.7	ft·lb/in²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	No Break		ISO 180/1U
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	60		ISO 2039-2
Shore Hardness (Shore D, 15 sec)	80		ISO 868

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	318	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	144	°F	ISO 75-2/A
Glass Transition Temperature [2]	118	°F	ISO 11357-2
Melting Temperature [2]	437	°F	ISO 11357-3
CLTE - Flow	5.6E-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	1300	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.10		
1 MHz	3.10		
Dissipation Factor (1 MHz)	0.020		IEC 60250
Comparative Tracking Index	250	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.03 in)	V-0		UL 94

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	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