



Celanex® 3209HR

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Celanex 3209HR is a 15% glass filled PBT that has an excellent hydrolysis resistance, mechanical properties and processability. Celanex 3209HR is non-lubricated.

General

Material Status	• Commercial: Active
Availability	• North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight
Features	• Good Processability • Hydrolysis Resistant
RoHS Compliance	• Contact Manufacturer

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	30	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.90	%	
Flow	0.10	%	
Water Absorption (Equilibrium, 73°F, 50% RH)	0.17	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	841000	psi	ISO 527-2/1A
Tensile Stress (Break)	14500	psi	ISO 527-2/1A/5
Tensile Strain (Break)	3.5	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	769000	psi	ISO 178
Flexural Stress (73°F)	21800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	1.9	ft-lb/in ²	
73°F	2.6	ft-lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	10	ft-lb/in ²	
73°F	10	ft-lb/in ²	
Notched Izod Impact Strength (73°F)	2.5	ft-lb/in ²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	8.1	ft-lb/in ²	ISO 180/1U
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D, 15 sec)	82		ISO 868
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	428	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	356	°F	ISO 75-2/A
Glass Transition Temperature ²	140	°F	ISO 11357-2
Vicat Softening Temperature	428	°F	ISO 306/A50
Melting Temperature ²	437	°F	ISO 11357-3
CLTE - Flow	2.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	5.6E-5	in/in/°F	ISO 11359-2

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	2.0E+16	ohms	IEC 60093
Volume Resistivity	4.0E+16	ohms·cm	IEC 60093
Electric Strength	430	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.70		
1 MHz	2.90		
Dissipation Factor (1 MHz)	0.024		IEC 60250
Comparative Tracking Index	325	V	IEC 60112

Processing Information

Injection	Nominal Value	Unit
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
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