

Celanex® 3209HR

Polybutylene Terephthalate

Celanese Corporation

Message:

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

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 15% filler by weight		
Features	Workability, good		
	Hydrolysis resistance		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.90	%	ISO 294-4
Flow direction	0.10	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.17	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	5800	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	100	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	3.5	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	5300	MPa	ISO 178
Flexural Stress (23°C)	150	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	4.0	kJ/m ²	ISO 179/1eA
23°C	5.5	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	22	kJ/m ²	ISO 179/1eU
23°C	22	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	5.3	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	17	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	220	°C	ISO 75-2/B
1.8 MPa, not annealed	180	°C	ISO 75-2/A
Glass Transition Temperature	60.0	°C	ISO 11357-2

Melting Temperature ¹	225	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	3.8E-5	cm/cm/°C	ISO 11359-2
Lateral	1.0E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	2.0E+16	ohms	IEC 60093
Volume Resistivity	4.0E+16	ohms·cm	IEC 60093
Dielectric Strength	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.70		IEC 60250
1 MHz	2.90		IEC 60250
Dissipation Factor (1 MHz)	0.024		IEC 60250
Comparative Tracking Index	325	V	IEC 60112
Injection	Nominal Value	Unit	
Suggested Max Regrind	25	%	
Rear Temperature	230 - 240	°C	
Middle Temperature	235 - 250	°C	
Front Temperature	240 - 260	°C	
Nozzle Temperature	250 - 260	°C	
Processing (Melt) Temp	235 - 260	°C	
Mold Temperature	65.0 - 93.0	°C	
Injection Rate	Fast		
Back Pressure	0.00 - 0.345	MPa	
Injection instructions			
Screw Speed: Medium			
NOTE			
1.	10°C/min		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

