

Celanex® 531HS

Polybutylene Terephthalate

Celanese Corporation

Message:

Celanex 531HS is a 30% fiberglass reinforced PBT which has an excellent balance of mechanical properties and processability. Celanex 531HS is specifically designed to exhibit excellent thermal shock resistance.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	Workability, good		
	Good thermal shock resistance		
RoHS Compliance	Contact manufacturer		
Physical	Nominal Value	Unit	Test Method
Density	1.47	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.70	%	ISO 294-4
Flow direction	0.0 - 0.50	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.19	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	8300	MPa	ISO 527-2/1A/1
Tensile Strength			
Fracture, 23°C	95.1	MPa	ASTM D638
Fracture	105	MPa	ISO 527-2/1A/5
Tensile Elongation			
Fracture, 23°C	3.5	%	ASTM D638
Fracture	3.5	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	7400	MPa	ISO 178
Flexural Stress (23°C)	175	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	8.0	kJ/m ²	ISO 179/1eA
23°C	11	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	38	kJ/m ²	ISO 179/1eU
23°C	47	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	13	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	221	°C	ISO 75-2/B

1.8 MPa, not annealed	204	°C	ISO 75-2/A
Glass Transition Temperature ¹	71.0	°C	ISO 11357-2
Melting Temperature ²	225	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	2.5E-5	cm/cm/°C	ISO 11359-2
Lateral	8.8E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	9.0E+15	ohms	IEC 60093
Volume Resistivity	2.0E+15	ohms·cm	IEC 60093
Dielectric Strength	32	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	2.80		IEC 60250
1 MHz	3.00		IEC 60250
Dissipation Factor (1 MHz)	0.013		IEC 60250
Comparative Tracking Index	300	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Injection	Nominal Value	Unit	
Hopper Temperature	20.0 - 50.0	°C	
Rear Temperature	230 - 240	°C	
Middle Temperature	235 - 250	°C	
Front Temperature	235 - 250	°C	
Nozzle Temperature	250 - 260	°C	
Processing (Melt) Temp	235 - 260	°C	
Mold Temperature	65.0 - 93.0	°C	
Injection instructions			
Manifold Temperature: 250 to 260°CZone 4 Temperature: 240 to 260°CFeed Temperature: 230 to 240°C			
NOTE			
1.	10°C/min		
2.	10°C/min		

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