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Celanese
The chemistry inside innovation™

CELANEX® 531HS - PBT

Description

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.

Physical properties	Value	Unit	Test Standard
Density	**1470**	kg/m³	ISO 1183
Melt flow rate, MFR	**16**	g/10min	ISO 1133
MFR temperature	**250**	°C	ISO 1133
MFR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**0 - 0.5**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.7**	%	ISO 294-4, 2577
Humidity absorption, 23°C/50%RH	**0.19**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**8300**	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	**105**	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	**3.5**	%	ISO 527-2/1A
Flexural modulus, 23°C	**7400**	MPa	ISO 178
Flexural strength, 23°C	**175**	MPa	ISO 178
Charpy impact strength, 23°C	**47**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**38**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	**11**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**8**	kJ/m²	ISO 179/1eA
Izod impact notched, 23°C	**13**	kJ/m²	ISO 180/1A

Mechanical properties (TPE)	Value	Unit	Test Standard
Shore D hardness, 15s	**80**	-	ISO 868

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**225**	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	**71**	°C	ISO 11357-1,-2,-3
DTUL at 1.8 MPa	**204**	°C	ISO 75-1, -2
DTUL at 0.45 MPa	**221**	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	**0.25**	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	**0.88**	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	**2.8**	-	IEC 60250
Relative permittivity, 1MHz	**3**	-	IEC 60250
Dissipation factor, 1MHz	**130**	E-4	IEC 60250
Volume resistivity	**2E13**	Ohm*m	IEC 60093
Surface resistivity	**9E15**	Ohm	IEC 60093
Electric strength	**32**	kV/mm	IEC 60243-1
Comparative tracking index	**300**	-	IEC 60112

Typical injection moulding processing conditions

Temperature	Value	Unit	Test Standard
Hopper temperature	**20 - 50**	°C	-
Feeding zone temperature	**230 - 240**	°C	-
Zone1 temperature	**230 - 240**	°C	-
Zone2 temperature	**235 - 250**	°C	-
Zone3 temperature	**235 - 250**	°C	-
Zone4 temperature	**240 - 260**	°C	-
Nozzle temperature	**250 - 260**	°C	-
Melt temperature	**235 - 260**	°C	-

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Mold temperature	**65 - 93**	°C	-
Hot runner temperature	**250 - 260**	°C	-

Characteristics

Product Categories

Glass reinforced