

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/m ³	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/m ²	ISO 179/1eU
Charpy impact strength, -30°C	38	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	11	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	8	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	13	kJ/m ²	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