

CELANEX(PBT)® 5300 - PBT

Description

30% glass reinforced, high gloss, general purpose.

Celanex 5300 is a 30% fiberglass reinforced polyester with improved surface finish.

Physical properties	Value	Unit	Test Standard
Density	1540	kg/m ³	ISO 1183
Melt volume rate, MVR	20	cm ³ /10min	ISO 1133
MVR temperature	265	°C	ISO 1133
MVR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	0.3 - 0.5	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.4	%	ISO 62
Humidity absorption, 23°C/50%RH	0.2	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	10000	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	135	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	3	%	ISO 527-2/1A
Flexural modulus, 23°C	9000	MPa	ISO 178
Flexural strength, 23°C	200	MPa	ISO 178
Charpy impact strength, 23°C	49	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	48	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.5	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	9	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	8.3	kJ/m ²	ISO 180/1A
Rockwell hardness (M-Scale)	93	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60	°C	ISO 11357-1,-2,-3
DTUL at 1.8 MPa	200	°C	ISO 75-1, -2
DTUL at 0.45 MPa	220	°C	ISO 75-1, -2
DTUL at 8.0 MPa	120	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 50N	225	°C	ISO 306
Coeff. of linear therm expansion, parallel	0.24	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	0.75	E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	20	%	ISO 4589-1/-2
Flammability at thickness h	HB	class	UL 94
thickness tested (h)	0.71	mm	UL 94

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	4.6	-	IEC 60250
Relative permittivity, 1kHz	4.2	-	IEC 60250
Volume resistivity	>1E13	Ohm*m	IEC 60093
Surface resistivity	>1E15	Ohm	IEC 60093
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index CTI M	350	-	IEC 60112

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.02	%	-
Drying time	4	h	-
Drying temperature	120 - 130	°C	-

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Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 50	°C	-
Feeding zone temperature	230 - 250	°C	-
Zone1 temperature	230 - 250	°C	-
Zone2 temperature	235 - 255	°C	-
Zone3 temperature	235 - 255	°C	-
Zone4 temperature	240 - 260	°C	-
Nozzle temperature	250 - 265	°C	-
Melt temperature	235 - 265	°C	-
Mold temperature	65 - 93	°C	-
Hot runner temperature	250 - 265	°C	-
Speed	Value	Unit	Test Standard
Injection speed	medium-fast	-	-

Other text information**Pre-drying**

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) for 4 hours.

Longer pre-drying times/storage

For subsequent storage of the material in a dryer until processed (<= 60hr) it is necessary to lower the temperature to 100°C.

Characteristics

Product Categories	Delivery Form
Glass reinforced	Pellets
Processing	Regional Availability
Injection molding	North America