Celanese
The chemistry inside innovation™

CELANEX® 5300

CELANEX® PBT

30% glass reinforced, high gloss, general purpose.

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

Product information

Resin Identification	(PET+PBT)-GF30		ISO 1043
Part Marking Code	>(PET+PBT)-GF30<		ISO 11469

Rheological properties

Melt volume-flow rate	20	cm^3/10min	ISO 1133
Temperature	265	°C	
Load	2.16	kg	
Moulding shrinkage range, parallel	0.3 - 0.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	10000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	135	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3	%	ISO 527-1/-2
Flexural modulus	9000	MPa	ISO 178
Flexural strength	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 notched impact strength, 23°C	8.3	kJ/m^2	ISO 180/1A
Hardness, Rockwell, M-scale	93		ISO 2039-2
Poisson's ratio	0.34[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	200	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	220	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	120	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	225	°C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	24	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	75	E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.71	mm	IEC 60695-11-10
Oxygen index	20	%	ISO 4589-1/-2

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Electrical properties

Relative permittivity, 100Hz	4.6		IEC 62631-2-1
Relative permittivity, 1000Hz	4.2		IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index M	group IIIa		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.4	%	Sim. to ISO 62
Density	1540	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	120	°C
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	265	°C
Min. melt temperature	255	°C
Max. melt temperature	275	°C
Screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	90	°C
Max. mould temperature	130	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets

Additional information

Processing Notes

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.
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Storage

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