

CELANEX® 5300-2

CELANEX® PBT

Celanex 5300-2 is a 30% fiberglass reinforced polyester with improved surface finish. Celanex 5300-2 contains an internal lubricant.

Product information

Resin Identification	(PET+PBT)-GF3 0	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	
Viscosity number	68 cm ³ /g	ISO 307, 1628
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	250 °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, 1MHz	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	350	IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Water absorption, 2mm	0.4 %	Sim. to ISO 62
Water absorption, Immersion 24h	0.05 %	Sim. to ISO 62
Density	1540 kg/m ³	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
Special characteristics	High Gloss

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) at 250°F (121°C) for 4 hours.

Storage

For subsequent storage of the material in the dryer until processed (≤ 60 h) it is necessary to lower the temperature to 100° C.

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