

CELANEX® 4306

CELANEX® PBT

Celanex 4306 is a 30% glass reinforced, toughened, low warpage thermoplastic polyester.

Product information

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

Rheological properties

Moulding shrinkage range, parallel	0.4 - 0.6 %	ISO 294-4, 2577
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Typical mechanical properties

Tensile modulus	9200 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	120 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 %	ISO 527-1/-2
Flexural modulus	8500 MPa	ISO 178
Flexural strength	180 MPa	ISO 178
Charpy impact strength, 23 °C	60 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30 °C	45 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23 °C	12 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30 °C	11 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23 °C	12 kJ/m ²	ISO 180/1A
Hardness, Rockwell, M-scale	73	ISO 2039-2
Poisson's ratio	0.34 ^[C]	

[C]: Calculated

Thermal properties

Melting temperature, 10 °C/min	225 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	164 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	210 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	20 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	87 E-6/K	ISO 11359-1/-2

Physical/Other properties

Water absorption, Immersion 24h	0.1 %	Sim. to ISO 62
Density	1500 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	260 °C
Min. melt temperature	240 °C
Max. melt temperature	275 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	80 °C

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Min. mould temperature 60 °C
Max. mould temperature 130 °C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	High impact or impact modified

Additional information

Injection molding

Preprocessing

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 <-30 °F (-34 °C) at 250 °F (121 °C) for 4 hours.

Processing

Rear Temperature 450-470(230-240) deg F (deg C)
Center Temperature 460-480(235-250) deg F (deg C)
Front Temperature 470-500(240-260) deg F (deg C)
Nozzle Temperature 480-500(250-260) deg F (deg C)
Melt Temperature 460-500(235-260) deg F (deg C)
Mold Temperature 150-200(65-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.

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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Automotive

OEM

General Motors
General Motors

STANDARD

GMW17249
GMW17249

ADDITIONAL INFORMATION

Black
Natural