

CELANEX® 4302

30% glass-fiber reinforced PBT+PET blend; impact modified grade

Celanex 4302 is a 30% glass reinforced PBT designed for improved mold flow, warp resistance and surface appearance.

Product information

Part Marking Code	(PBT-I+PET)-GF30	ISO 11469
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Rheological properties

Melt mass-flow rate	8 g/10min	ISO 1133
Melt mass-flow rate, Temperature	250 °C	
Melt mass-flow rate, Load	2.16 kg	
Moulding shrinkage range, parallel	0.2 - 0.4 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.4 - 0.6 %	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	8900 MPa	ISO 527-1/-2
Stress at break, 5mm/min	120 MPa	ISO 527-1/-2
Strain at break, 5mm/min	3 %	ISO 527-1/-2
Flexural Modulus	8700 MPa	ISO 178
Flexural Strength	190 MPa	ISO 178
Charpy impact strength, 23°C	55 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	40 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	10 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	8.5 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	14 kJ/m ²	ISO 180/1A
Shore D hardness, 15s	81	ISO 48-4 / ISO 868

Thermal properties

Melting temperature, 10°C/min	225 °C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	55 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	173 °C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	218 °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	18 E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	125 E-6/K	ISO 11359-1/-2

Other properties

Humidity absorption, 2mm	0.15 %	Sim. to ISO 62
Density	1490 kg/m ³	ISO 1183

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Injection

Drying Temperature	120 - 130 °C
Drying Time, Dehumidified Dryer	4 h
Processing Moisture Content	0.02 %
Max. mould temperature	65 - 93 °C
Injection speed	medium-fast

Additional information

Injection molding	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
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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 Texts

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.
Longer pre-drying times/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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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.