

CELSTRAN® PBT-GF40-08

CELSTRAN® Long Fibre

40% Long Glass Fiber Reinforced PBT

Product information

Resin Identification	PBT-LGF40	ISO 1043
Part Marking Code	>PBT-LGF40<	ISO 11469

Typical mechanical properties

Tensile modulus	13600 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	180 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9 %	ISO 527-1/-2
Flexural modulus	12700 MPa	ISO 178
Flexural strength	270 MPa	ISO 178
Charpy notched impact strength, 23 °C	32 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.33 ^[C]	

[C]: Calculated

Thermal properties

Temperature of deflection under load, 1.8 MPa	225 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	226 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	16 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

Density	1610 kg/m ³	ISO 1183
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Injection

Drying Recommended	yes
Drying Temperature	120 °C
Drying Time, Dehumidified Dryer	4 h
Processing Moisture Content	≤0.04 %
Melt Temperature Optimum	250 °C
Min. melt temperature	240 °C
Max. melt temperature	260 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	60 °C
Max. mould temperature	130 °C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets

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Additional information

Injection molding

Preprocessing

PBT Drying Requirements: 4 hrs. @ 120° C.
A dehumidifier or desiccant dryer is recommended.

Processing

Celstran can be processed on a standard injection molding unit.
A general purpose metering screw is recommended with a zone distribution of 40% feed, 40% transition, and 20% metering.
A free flowing check ring assembly is recommended.

Melt Temp.: 280 - 300° C.
Mold Temp.: 80 - 90° C.

Processing Notes

Pre-Drying

CELSTRAN PBT should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be $\leq -30^{\circ}\text{C}$. The time between drying and processing should be as short as possible