

PRECITE® PRELIMINARY

E GF 50 natural (7300)

PET GF50

PRECITE® E GF 50 natural (7300) is a 50% glass fibre reinforced, medium viscous polyethylene terephthalate (PET) with very high stiffness and toughness even at elevated temperatures. Due to its low moisture absorption, this material is particularly dimensionally stable and therefore perfectly suitable for precision parts in the automotive, E&E and household goods industries, where a very good surface finish is required.

Features

surface modified reduced moisture E&E metal substitution Sports & leisure

Properties

Modulus

18.100 MPa

Strength

220 MPa

Impact

70 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

18100 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

220 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

1,8 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

21000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

350 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

70 kJ/m²

-30°C | d.a.m.

50 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

14 kJ/m²

-30°C | d.a.m.

14 kJ/m²

Izod impact strength

ISO 180/1A

23°C | d.a.m.

54 kJ/m²

Izod notched impact strength

ISO 180/1A

23°C | d.a.m.

11 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

235 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

250 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,13 10⁻⁴/K

23°C to 80°C | transverse

0,68 10⁻⁴/K

Flammability

Flammability

UL 94

0,8 mm Wall thickness

HB Class

General Properties

Density

ISO 1183

23°C

1,75 g/cm³

Molding shrinkage

ISO 294-4

flow

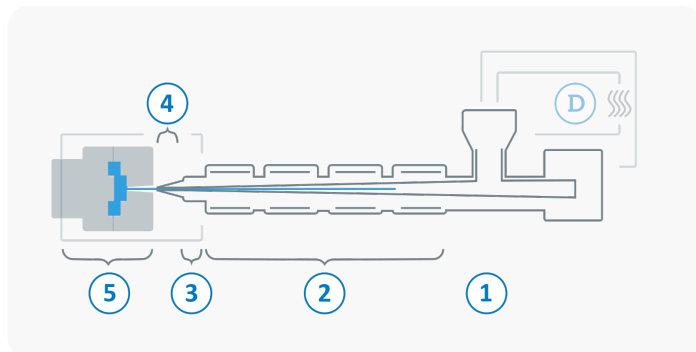
0,1 - 0,3 %

transverse

0,5 - 0,7 %

Processing

The values mentioned are recommendations. We only recommend desiccant / dry air dryers or vacuum dryers. Too long a drying time and the resulting residual moisture content below the lower limit can lead to filling problems and surface defects. The specified drying time refers to closed and undamaged bagged material. When processing from previously opened bags or from octabins with polyolefin inliners, a longer drying time may be necessary. It is recommended to check the residual moisture content after the drying process.



D	Drying time	3 - 4 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	120 - 140 $^{\circ}\text{C}$
	Processing moisture	$\leq 0,02 \%$
1	Feed section	60 - 80 $^{\circ}\text{C}$
2	Temperature Zone 1 - Zone 4	270 - 290 $^{\circ}\text{C}$
3	Nozzle temperature	270 - 295 $^{\circ}\text{C}$
4	Melt temperature	270 - 290 $^{\circ}\text{C}$
5	Mold temperature	130 - 160 $^{\circ}\text{C}$
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	30 - 100 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min

Diagrams

