

PRECITE® PRELIMINARY

E GF 20 natural (7301)

PET GF20

PRECITE® E GF 20 natural (7301) is a 20% glass fibre reinforced, medium viscous polyethylene terephthalate (PET) with good 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

7.800 MPa

Strength

145 MPa

Impact

40 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

7800 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

145 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

8500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

225 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

3 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

40 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

8 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	210 °C
Melting temperature ISO 11357-3	DSC, 10K/min	250 °C

Flammability

Flammability UL 94	1,6 mm Wall thickness	HB Class
------------------------------	-----------------------	----------

General Properties

Density ISO 1183	23°C	1,47 g/cm ³
Molding shrinkage ISO 294-4	flow transverse	0,2 - 0,4 % 0,7 - 0,9 %

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

