

PRECITE®

P3 GF 30 natural (6850)

PBT GF30

PRECITE® P3 GF 30 natural (6850) is a 30% glass fiber reinforced PBT with excellent dimensional stability. Thanks to its low moisture absorption, PRECITE® achieves consistent mechanical and electrical properties, even under changing climatic conditions. With its exceptional combination of high stiffness and elongation, as well as excellent chemical resistance, the compound is ideally suited for precision engineering components in the automotive industry, mechanical engineering, electrical and electronic applications, and household goods.

Features

3D printing / additive manufacturing

Properties

Modulus

10.000 MPa

Strength

145 MPa

Impact

65 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

10000 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.

10500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

230 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

65 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

11 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	205 °C
Melting temperature ISO 11357-3	DSC, 10K/min	225 °C

General Properties

Density ISO 1183	23°C	1,53 g/cm ³
Humidity absorption ISO 1110	70°C, 62% r.H.	0,2 %
Water absorption ISO 62	23°C, saturated	0,4 %
Molding shrinkage ISO 294-4	flow	0,3 %
	transverse	0,9 %

Electrical Properties

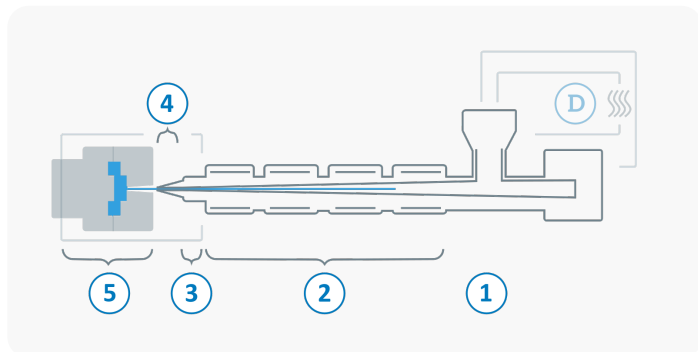
Volume resistivity IEC 62631-3-1	d.a.m.	$> 10^{13} \Omega \times \text{cm}$
Surface resistivity IEC 62631-3-2	d.a.m.	$10^{12} \Omega$
Comparative tracking index IEC 60112	Test liquid A	350 V

Rheological Properties

MVR ISO 1133	250°C/2,16kg	9 cm ³ /10 min
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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 ($\tau \leq -30^{\circ}\text{C}$)	100 - 120 $^{\circ}\text{C}$
	Processing moisture	0,02 - 0,04 %
1	Feed section	60 - 80 $^{\circ}\text{C}$
2	Temperature Zone 1 - Zone 4	250 - 275 $^{\circ}\text{C}$
3	Nozzle temperature	250 - 280 $^{\circ}\text{C}$
4	Melt temperature	260 - 275 $^{\circ}\text{C}$
5	Mold temperature	80 - 100 $^{\circ}\text{C}$
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	30 - 100 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min

Diagrams

