

PRECITE® P3 GF 50 natural (6944)

PBT GF50

PRECITE® P3 GF 50 natural (6944) is a 50% 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.

Properties

Modulus

17.000 MPa

Strength

185 MPa

Impact

60 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

17000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

185 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.

16500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

285 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

60 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

13 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	215 °C
ISO 75		

Melting temperature	DSC, 10K/min	225 °C
ISO 11357-3		

Flammability

Flammability	0,8 mm Wall thickness	HB Class
UL 94		

GWFI	1,6 mm Wall thickness	725 °C
IEC 60695-2-12		

Burning rate (<100 mm/min)	> 1 mm Thickness	+
FMVSS 302		

General Properties

Density	23°C	1,71 g/cm ³
ISO 1183		

Humidity absorption	70°C, 62% r.H.	0,2 %
ISO 1110		

Water absorption	23°C, saturated	0,4 %
ISO 62		

Molding shrinkage	flow	0,2 %
ISO 294-4	transverse	0,6 %

Electrical Properties

Volume resistivity	d.a.m.	> 10 ¹³ Ω x cm
IEC 62631-3-1		

Surface resistivity	d.a.m.	10 ¹² Ω
IEC 62631-3-2		

Comparative tracking index	Test liquid A	425 V
IEC 60112		

Rheological Properties

MVR

ISO 1133

250°C/2,16kg

2 cm³/10 min

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 °C
	Processing moisture	0,02 - 0,04 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	250 - 275 °C
3	Nozzle temperature	250 - 280 °C
4	Melt temperature	260 - 275 °C
5	Mold temperature	80 - 100 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	30 - 100 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min