

PBT – Polybutyleneterephthalate PBT GF 15

PRECITE® P3 GF 15 natural (6942)

Tensile modulus

6000 MPa

1 mm/min

ISO 527-2

Stress at break

110 MPa

5 mm/min

ISO 527-2

Charpy impact strength

40 kJ/m²

23°C

ISO 179-1/1eU

PRECITE® P3 GF 15 natural (6942) is a 15% glass fibre reinforced, medium viscous polybutylene terephthalate (PBT) with medium stiffness and toughness as well as high dimensional stability and chemical resistance.

Typical applications

Technical and precision parts in automobile, industrial, E/E and appliances industry.



Mechanical Properties

Tensile modulus (1 mm/min ISO 527-2) d.a.m.	6000 MPa
Stress at break (5 mm/min ISO 527-2) d.a.m.	110 MPa
Strain at break (5 mm/min ISO 527-2) d.a.m.	3,5 %
Flexural modulus (2 mm/min ISO 178) d.a.m.	5500 MPa
Flexural strength (2 mm/min ISO 178) d.a.m.	175 MPa
Charpy impact strength (23°C ISO 179-1/1eU) d.a.m.	40 kJ/m ²
Charpy notched impact strength (23°C ISO 179-1/1eA) d.a.m.	6,5 kJ/m ²



Thermal Properties

Temperature of deflection under load HDT/A (1,8 MPa ISO 75)	205 °C
Melt temperature (DSC, 10K/min DIN EN 11357-1)	225 °C



Flammability

Burning rate (UL 94) 0,8mm Wall thickness	HB Class
GWFI (IEC 60695-2-12) 1,6mm Wall thickness	725 °C
Burning rate (<100 mm/min) (> 1 mm Thickness FMVSS 302)	+

Disclaimer:

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**General properties**

Density (23°C ISO 1183)	1,4 g/cm ³
Humidity absorption (70°C, 62% r.H. ISO 1110)	0,2 %
Water absorption 23°C saturated (23°C, saturated ISO 62)	0,4 %
Molding shrinkage (flow ISO 294-4)	0,5-0,7 %
Molding shrinkage (transverse ISO 294-4)	0,9-1,1 %

**Electrical Properties**

Volume resistivity (IEC 60093) d.a.m.	>1,0E+13 Ohm x cm
Surface resistivity (acc. to IEC 60093) d.a.m.	1,0E+12 Ohm
Comparative tracking index (Test liquid A IEC 60112)	300 V

**Rheological Properties**

MVR (250°C/2,16kg ISO 1133)	14 cm ³ /10min
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Disclaimer:

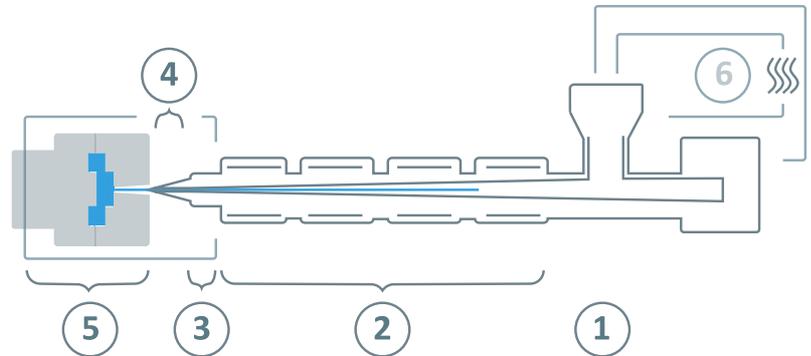
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Processing information

The listed values are recommendations. Higher values should be used for higher glass loadings. We recommend only dehumidifying or vacuum dryers. Extensive drying can cause filling problems and surface defects.



⑥	Drying time	3 - 4 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	100 - 120°C
	Processing moisture	0,04 - 0,02%
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

Warning

Due to hydrolysis sensitivity of polyesters, a careful drying of the material before processing is very important. High residual moisture contents causes, in addition to surface defects, a decomposition of the molecular chains and thus reduced mechanical properties. If there are longer interruptions of the process, the cylinder temperature should be lowered. Furthermore, we recommend a thorough cleaning of the screw cylinder with extended dwell time or a material change. Glass-fiber-reinforced polyolefins (PE, PP) have established a particularly good cleaning effect.

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