

PRECITE®

P3 GF 30 natural (6850)

PBT GF30

PRECITE P3 GF 30 natural (6850) is a 30% glass fibre reinforced, medium viscous polybutylene terephthalate (PBT) with high stiffness and toughness as well as high dimensional stability and chemical resistance.

Properties

Modulus	Strength	Impact
10.000 MPa	145 MPa	65 kJ/m ²

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

Disclaimer

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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/cm³
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 DIN EN 62631-3-2	d.a.m.	> 10¹³ Ω x cm
Volume resistivity DIN DIN EN 62631-3-2	d.a.m.	> 10¹³ Ω x cm
Surface resistivity DIN EN 62631-3-2	d.a.m.	10¹² Ω
Comparative tracking index IEC 60112	Test liquid A	350 V

Rheological Properties

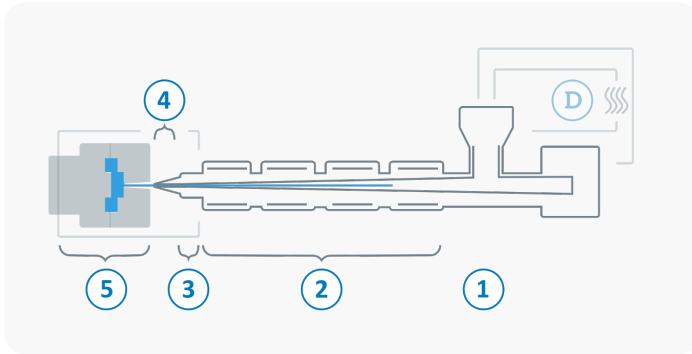
MVR ISO 1133	250°C/2,16kg	9 cm³/10 min
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Processing

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



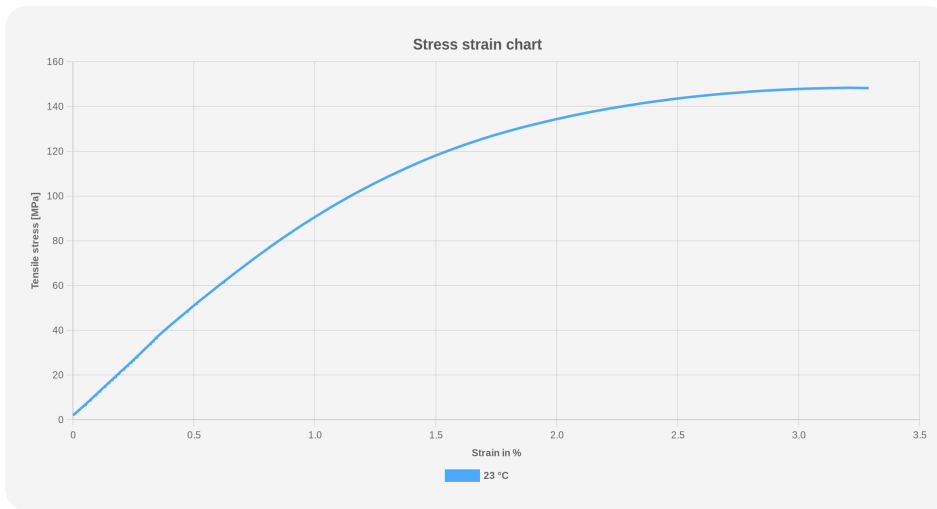
D	Drying time	3 - 4 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	100 - 120 °C
	Processing moisture	0,02 - 0,04 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	250 - 275 °C
3	Nozzle temperature	250 - 280 °C
4	Melt temperature	260 - 275 °C
5	Mold temperature	80 - 100 °C
→	Holding pressure,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

! 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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Diagrams



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