

PRECITE®

P3 GF 30 9 FR black (8424)

PBT GF30 FR(40)

PRECITE® P3 GF 30 9 FR black (8424) is a 30% glass fiber-reinforced, flame-retardant polybutylene terephthalate (PBT) with a very good combination of strength and ductility and a UL94 V-0 classification from 1.6 mm thickness. The material is based on the latest flame retardant technology and is free from halogenated flame retardant additives, antimony trioxide, PFAS and melamine containing components. It offers excellent heat ageing resistance and is very dimensionally stable due to its low moisture absorption and is particularly suitable for precision parts in the e-mobility or E&E industry.

Features

heat stabilised 130 flame retardant low warpage E&E E-Mobility

Properties

Modulus

10.500 MPa

Strength

122 MPa

Impact

50 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

10500 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

122 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,4 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

10500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

197 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

2,6 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

50 kJ/m²

-30°C | d.a.m.

48 kJ/m²

Charpy notched impact strength	23°C d.a.m.	9 kJ/m²
ISO 179-1/1eA	-30°C d.a.m.	8 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	205 °C
ISO 75		
Temperature of deflection under load HDT/B	0,45 MPa	222 °C
ISO 75		
Melting temperature	DSC, 10K/min	224 °C
ISO 11357-3		

Flammability

Flammability	1,6 mm Wall thickness	V-0 Class
UL 94		
GWFI	0,8 mm Wall thickness	960 °C
IEC 60695-2-12	1,6 mm Wall thickness	960 °C
GWIT	0,8 mm Wall thickness	750 °C
IEC 60695-2-13	1,6 mm Wall thickness	750 °C
Burning rate (<100 mm/min)	> 1 mm Thickness	+
FMVSS 302		
Oxygen index		> 30 %
ISO 4589-2		

General Properties

Density	23°C	1,53 g/cm³
ISO 1183		
Humidity absorption	70°C, 62% r.H.	0,1 - 0,3 %
ISO 1110		
Molding shrinkage	flow	0,2 - 0,4 %
ISO 294-4	transverse	0,8 - 1,0 %

Rheological Properties

MVR

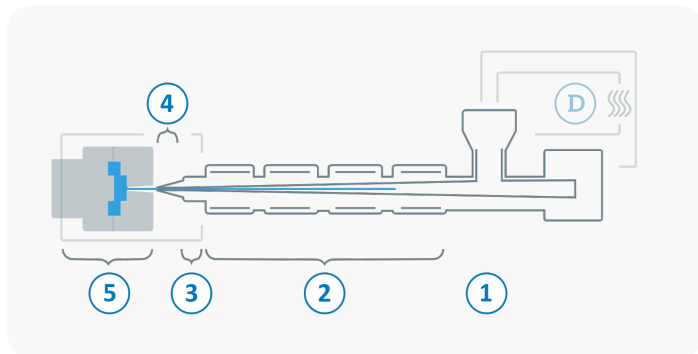
ISO 1133

275°C/2,16kg

25,5 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 $^{\circ}\text{C}$
	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