

PRECITE® PRELIMINARY

E GF 45 ECO black (8284)

PET GF45

PRECITE® E GF 45 ECO black (8284) is a 45% glass fibre reinforced, medium viscous polyethylene terephthalate (PET) with very high stiffness and toughness as well as high chemical resistance. Due to its low moisture absorption, this material is particularly dimensionally stable and therefore perfectly suitable for precision parts in the automotive, E&E and household goods industries. The formulations of the sustainable ECO products are partly based on regenerated post-consumer feedstock and thus contribute to reducing the consumption of valuable raw materials.

Features

recycled content reduced moisture metal substitution Sports & leisure

Properties

Modulus

16.100 MPa

Strength

200 MPa

Impact

65 kJ/m²

Sustainability

Recycled content 25 %

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

16100 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

200 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,3 %

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.

10 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	235 °C
Melting temperature ISO 11357-3	DSC, 10K/min	250 °C

Flammability

Flammability UL 94	0,8 mm Wall thickness	HB Class
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General Properties

Density ISO 1183	23°C	1,72 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	0,1 - 0,3 %
Molding shrinkage ISO 294-4	flow	0,1 - 0,3 %
	transverse	0,5 - 0,7 %

Rheological Properties

MVR ISO 1133	275°C/5kg	14 cm³/10 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 ($\tau \leq -30^{\circ}\text{C}$)	120 - 140 °C
Processing moisture	$\leq 0,02\%$
(1) Feed section	60 - 80 °C
(2) Temperature Zone 1 - Zone 4	270 - 290 °C
(3) Nozzle temperature	270 - 295 °C
(4) Melt temperature	270 - 290 °C
(5) Mold temperature	130 - 160 °C
(→) Holding pressure, spec.	300 - 800 bar
(←) Back pressure, spec.	30 - 100 bar
Injection speed	medium to high
Screw speed	8 - 15 m/min