

PRECITE®

E ICF 30 black (7429)

PET CF30

PRECITE® E ICF 30 black (7429) is medium viscosity polyethylene terephthalate (PET) with 30% recycled carbon fiber. Despite lower density compared to PET with glass fiber reinforcement, the product has very high strength and toughness as well as high dimensional stability. The good tribological properties and improved surface finish make it the material of choice for precision components in the automotive, mechanical engineering, E&E and household goods industries.

Features

surface modified recycled content reduced density reduced moisture E&E Sports & leisure lightweight construction

Properties

Modulus

24.000 MPa

Strength

220 MPa

Impact

44 kJ/m²

Sustainability

Recycled content **30 %**

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

24000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

220 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

1,9 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

24500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

325 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

44 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

6 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

215 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

250 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,05 10⁻⁴/K

23°C to 80°C | transverse

0,73 10⁻⁴/K

Flammability

Flammability

UL 94

0,8 mm Wall thickness

HB Class

General Properties

Density

ISO 1183

23°C

1,45 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 %

Electrical Properties

Volume resistivity

IEC 62631-3-1

d.a.m.

< 10³ Ω x cm

Surface resistivity

IEC 62631-3-2

d.a.m.

< 10³ Ω

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

Diagrams

