

PET – Polyethyleneterephthalate PET CF20

PRECITE® E ICF 20 black (7428)

Tensile modulus

17000 MPa

1 mm/min

ISO 527-2

Stress at break

180 MPa

5 mm/min

ISO 527-2

Charpy impact strength

41 kJ/m²

23°C

ISO 179-1/1eU

PRECITE® E ICF 20 black (7428) is a 20% carbon fibre reinforced, medium viscous Polyethylene terephthalate (PET) with very high stiffness and toughness as well as high dimensional stability and good tribological properties

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.	17000 MPa
Stress at break (5 mm/min ISO 527-2) d.a.m.	180 MPa
Strain at break (5 mm/min ISO 527-2) d.a.m.	2,2 %
Charpy impact strength (23°C ISO 179-1/1eU) d.a.m.	41 kJ/m ²
Charpy notched impact strength (23°C ISO 179-1/1eA) d.a.m.	7 kJ/m ²



Thermal Properties

Temperature of deflection under load HDT/A (1,8 MPa ISO 75) d.a.m.	215 °C
Melt temperature (DSC, 10K/min DIN EN 11357-1) d.a.m.	225 °C



Flammability

Burning rate (UL 94) 0,8mm Wall thickness	HB Class
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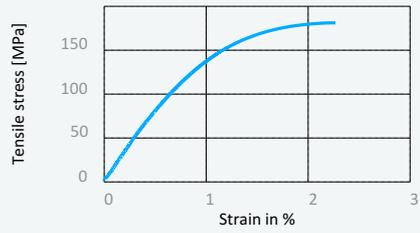
General properties

Density (23°C ISO 1183) d.a.m.	1,44 g/cm ³
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Disclaimer:

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Stress strain chart at 23°C



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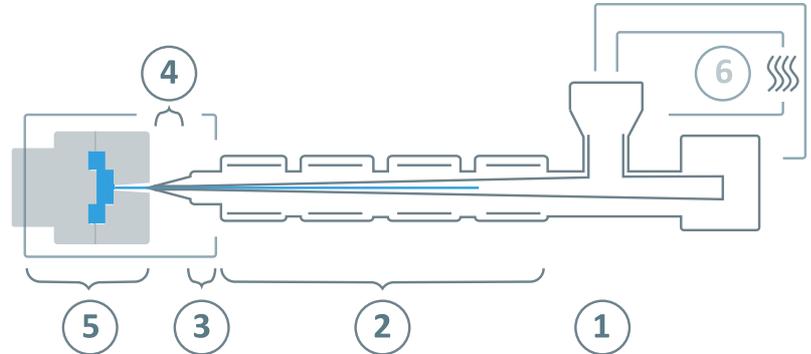
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Processing information

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 ($\tau \leq -30^{\circ}\text{C}$)	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

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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