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PET – Polyethyleneterephthalate PET CF30

PRECITE® E ICF 30 black (7429)

Tensile modulus	Stress at break	Charpy impact strength
24000 MPa	**220 MPa**	**44 kJ/m²**
1 mm/min	**5 mm/min**	**23°C**
ISO 527-2	ISO 527-2	ISO 179-1/1eU

PRECITE® E ICF 30 black (7429) is a 30% carbon fibre reinforced, medium

viscous Polyethylene terephthalate (PET) with very high stiffness and toughness and good dimensionstability and tribological properties

Typical applications

Technical and precision parts in automobile, industrial, E/E and appliances industry. Metalreplacement

Mechanical Properties

Tensile modulus (1 mm/min | ISO 527-2) d.a.m.	24000 MPa
Stress at break (5 mm/min | ISO 527-2) d.a.m.	220 MPa
Strain at break (5 mm/min | ISO 527-2) d.a.m.	1,6 %
Flexural modulus (2 mm/min | ISO 178) d.a.m.	24500 MPa
Flexural strength (2 mm/min | ISO 178) d.a.m.	325 MPa
Charpy impact strength (23°C | ISO 179-1/1eU) d.a.m.	44 kJ/m²
Charpy notched impact strength (23°C | ISO 179-1/1eA) d.a.m.	6 kJ/m²

Thermal Properties

Melt temperature (DSC, 10K/min | DIN EN 11357-1)	225 °C
Coefficent of linear thermal expansion, parallel (23°C bis 80°C | ISO 11359-1/2)	0,05 1,0E-4/K
Coefficent of linear thermal expansion, transverse (23°C bis 80°C | ISO 11359-1/2)	0,73 1,0E-4/K

Flammability

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

General properties

Density (23°C | ISO 1183)	1,45 g/cm³

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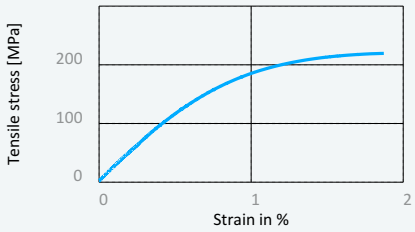
Stress strain chart at 23°C



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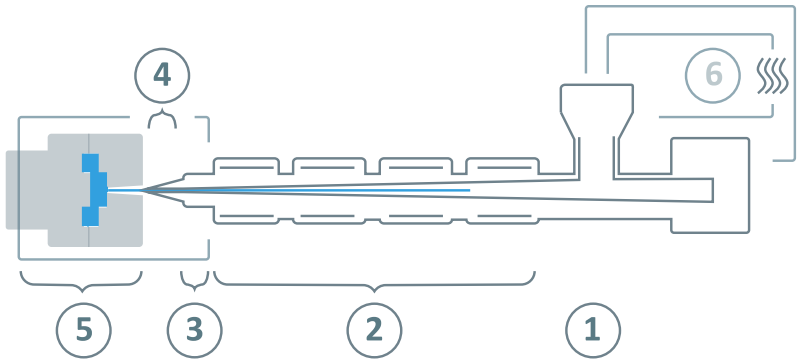
Processing information

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 problems and surface defects.



6	Drying time	3 - 4 h
	Drying temperature (τ ≤ -30°C)	120 - 140°C
	Processing moisture	≤ 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.