

AKROTEK®

PPS CF 30 black (8612)

PPS CF30

AKROTEK® PPS CF 30 black (8612) is a 30% carbon fiber-reinforced polyphenylene sulfide with very high stiffness, strength, and excellent temperature resistance up to 240 °C. It is characterized by very high flowability, exceptional dimensional stability, and good chemical resistance. The material is conductive.

Features

hydrolysis / chemically stabilised

Properties

Modulus

31.000 MPa

Strength

230 MPa

Impact

35 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

31000 MPa

1 mm/min | conditioned

31000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

230 MPa

5 mm/min | conditioned

230 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

0,9 %

5 mm/min | conditioned

0,9 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

31900 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

315 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

35 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	265 °C
Glass transition temperature ISO 11357-2	DSC, 2nd heating	90 °C
Melting temperature ISO 11357-3	DSC, 10K/min	280 °C

Flammability

Flammability UL 94	0,8 mm Wall thickness	V-0 Class
	1,6 mm Wall thickness	V-0 Class

General Properties

Density ISO 1183	23°C	1,45 g/cm ³
Humidity absorption ISO 1110	70°C, 62% r.H.	0,1 - 0,3 %
Molding shrinkage ISO 294-4	flow	0,2 - 0,4 %
	transverse	0,5 - 0,7 %

Electrical Properties

Surface resistivity IEC 62631-3-2	d.a.m.	< 10 ³ Ω
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Rheological Properties

Flowability AKRO	1 mm Thickness	120 mm
	2 mm Thickness	420 mm
MVR ISO 1133	300°C/5kg	15 cm ³ /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	2 - 6 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	120 - 140 $^{\circ}\text{C}$
	Processing moisture	0,02 %
1	Feed section	60 - 100 $^{\circ}\text{C}$
2	Temperature Zone 1 - Zone 4	320 - 340 $^{\circ}\text{C}$
3	Nozzle temperature	330 - 355 $^{\circ}\text{C}$
4	Melt temperature	320 - 340 $^{\circ}\text{C}$
5	Mold temperature	>150 $^{\circ}\text{C}$
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	<50 bar
	Injection speed	Slow - Fast - Slow
	Screw speed	5 - 12 m/min