

AKROTEK® PRELIMINARY

PPS GF 30 black (8610)

PPS GF30

AKROTEK® PPS GF 30 black (8610) is a 30% glass fiber-reinforced polyphenylene sulfide with 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. These properties make it particularly suitable for coolant-carrying components exposed to high temperatures and aggressive media, such as impellers.

Features

hydrolysis / chemically stabilised

Properties

Modulus

12.000 MPa

Strength

175 MPa

Impact

45 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

12000 MPa

1 mm/min | conditioned

11900 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

175 MPa

5 mm/min | conditioned

175 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

1,9 %

5 mm/min | conditioned

1,9 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

45 kJ/m²

-30°C | d.a.m.

45 kJ/m²

-40°C | d.a.m.

45 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

265 °C

Glass transition temperature	DSC, 2nd heating	90 °C
ISO 11357-2		

Melting temperature	DSC, 10K/min	280 °C
ISO 11357-3		

Flammability

Flammability	0,4 mm Wall thickness	V-0 Class
UL 94	0,8 mm Wall thickness	V-0 Class
	1,6 mm Wall thickness	V-0 Class
	3,2 mm Wall thickness	V-0 Class

Burning rate 5V	3,2 mm Wall thickness	5VA Class
UL 94		

General Properties

Density	23°C	1,55 g/cm³
ISO 1183		

Humidity absorption	70°C, 62% r.H.	0,1 - 0,3 %
ISO 1110		

Molding shrinkage	flow	0,2 - 0,4 %
ISO 294-4	transverse	0,5 - 0,7 %

Rheological Properties

Flowability	1 mm Thickness	120 mm
AKRO	2 mm Thickness	420 mm

MVR	300°C/5kg	35 cm³/10 min
ISO 1133		

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 - 350 $^{\circ}\text{C}$
(4) Melt temperature	320 - 340 $^{\circ}\text{C}$
(5) Mold temperature	>140 $^{\circ}\text{C}$
(→) Holding pressure, spec.	300 - 800 bar
(←) Back pressure, spec.	<50 bar
Injection speed	Slow - Fast - Slow
Screw speed	5 - 12 m/min