

# AKROTEK® PRELIMINARY

## PPS GF 30 natural (8836)

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AKROTEK® PPS GF 30 natural (8836) 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/m<sup>2</sup>

## 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/m<sup>2</sup>

-30°C | d.a.m.

45 kJ/m<sup>2</sup>

-40°C | d.a.m.

45 kJ/m<sup>2</sup>

## Thermal Properties

### Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

265 °C

<b>Glass transition temperature</b>	DSC, 2nd heating	<b>90 °C</b>
ISO 11357-2		

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

## Flammability

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

## General Properties

<b>Density</b>	23°C	<b>1,55 g/cm<sup>3</sup></b>
ISO 1183		

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

<b>Molding shrinkage</b>	flow	<b>0,2 - 0,4 %</b>
ISO 294-4	transverse	<b>0,5 - 0,7 %</b>

## 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.



<b>D</b>	Drying time	2 - 6 h
	Drying temperature ( $\tau \leq -30^{\circ}\text{C}$ )	120 - 140 $^{\circ}\text{C}$
	Processing moisture	<0,02 %
<b>1</b>	Feed section	60 - 100 $^{\circ}\text{C}$
<b>2</b>	Temperature Zone 1 - Zone 4	320 - 340 $^{\circ}\text{C}$
<b>3</b>	Nozzle temperature	330 - 350 $^{\circ}\text{C}$
<b>4</b>	Melt temperature	320 - 340 $^{\circ}\text{C}$
<b>5</b>	Mold temperature	>140 $^{\circ}\text{C}$
<b>→</b>	Holding pressure, spec.	300 - 800 bar
<b>←</b>	Back pressure, spec.	<50 bar
	Injection speed	Slow - Fast - Slow
	Screw speed	5 - 12 m/min