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AKROTEK® PRELIMINARY
PPS GF 40 natural (8064)

PPS GF40

AKROTEK® PPS GF 40 natural (8064) is a 40% 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.

Properties

Modulus	Strength	Impact
15.500 MPa	**190** MPa	**50** kJ/m²

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min | d.a.m. 1 mm/min | conditioned	**15500 MPa** **15200 MPa**
Tensile stress at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**190 MPa** **190 MPa**
Tensile strain at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**1,7 %** **1,7 %**
Flexural modulus ISO 178	2 mm/min | d.a.m.	**15000 MPa**
Flexural strength ISO 178	2 mm/min | d.a.m.	**280 MPa**
Flexural strain at break ISO 178	2 mm/min | d.a.m.	**2 %**
Charpy impact strength ISO 179-1/1eU	23°C | d.a.m. -30°C | d.a.m.	**50 kJ/m²** **50 kJ/m²**
Charpy notched impact strength ISO 179-1/1eA	23°C | d.a.m. -30°C | d.a.m.	**10 kJ/m²** **9 kJ/m²**

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	**267 °C**
Temperature of deflection under load HDT/C ISO 75	8 MPa	**200 °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	0,4 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 UL 94	3,2 mm Wall thickness	**5VA Class**

General Properties

Density ISO 1183	23°C	**1,65 g/cm³**
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 %**

Rheological Properties

MVR ISO 1133	300°C/5kg	**25 cm³/10 min**

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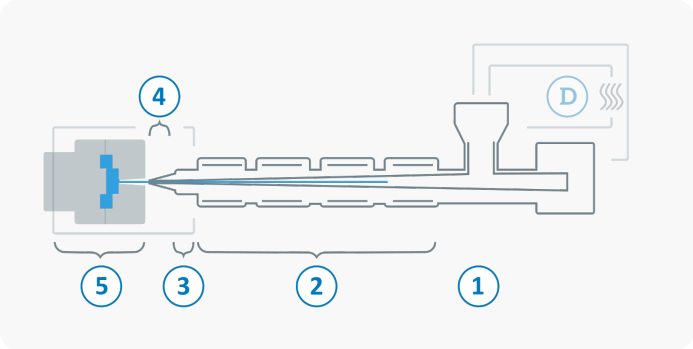
Processing

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 (τ <= -30°C)	120 - 140 °C
	Processing moisture	<0,02 %
1	Feed section	60 - 100 °C
2	Temperature Zone 1 - Zone 4	320 - 340 °C
3	Nozzle temperature	330 - 350 °C
4	Melt temperature	320 - 340 °C
5	Mold temperature	>140 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	<50 bar
	Injection speed	Slow - Fast - Slow
	Screw speed	5 - 12 m/min

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Diagrams