

# AKROTEK® PRELIMINARY

## PK-VM GF 50 natural (8683)

PK GF50

AKROTEK® PK-VM GF 50 natural (8683) is a 50% glass fibre reinforced Polyketone with very high stiffness and strength. Due to its very good media resistance, the material is suitable for use in applications that carry cooling water. This type was developed as the successor to PK-VM GF 50 natur (4905) in order to meet the requirements for a larger processing window during processing.

### Features

hydrolysis / chemically stabilised

### Properties

Modulus

14.500 MPa

Strength

190 MPa

Impact

80 kJ/m<sup>2</sup>

## Mechanical Properties

### Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

14500 MPa

### Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

190 MPa

### Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,6 %

### Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

80 kJ/m<sup>2</sup>

### Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

15 kJ/m<sup>2</sup>

## Thermal Properties

### Melting temperature

ISO 11357-3

DSC, 10K/min

220 °C

## Flammability

<b>Flammability</b> UL 94	1,6 mm Wall thickness	<b>HB Class</b>
<b>Burning rate (&lt;100 mm/min)</b> FMVSS 302	> 1 mm Thickness	+

## General Properties

<b>Density</b> ISO 1183	23°C	<b>1,65 g/cm<sup>3</sup></b>
<b>Humidity absorption</b> ISO 1110	70°C, 62% r.H.	<b>0,4 - 0,5 %</b>
<b>Molding shrinkage</b> ISO 294-4	flow	<b>0,1 - 0,3 %</b>
	transverse	<b>0,4 - 0,6 %</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	0 - 4 h
	Drying temperature ( $\tau \leq -30^{\circ}\text{C}$ )	80 °C
	Processing moisture	0,02 - 0,1 %
<b>1</b>	Feed section	60 - 80 °C
<b>2</b>	Temperature Zone 1 - Zone 4	220 - 260 °C
<b>3</b>	Nozzle temperature	230 - 260 °C
<b>4</b>	Melt temperature	230 - 260 °C
<b>5</b>	Mold temperature	60 - 120 °C
<b>→</b>	Holding pressure, spec.	300 - 800 bar
<b>←</b>	Back pressure, spec.	30 - 70 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min