

AKROTEK® PRELIMINARY

PK-VM GF 20 natural (6982)

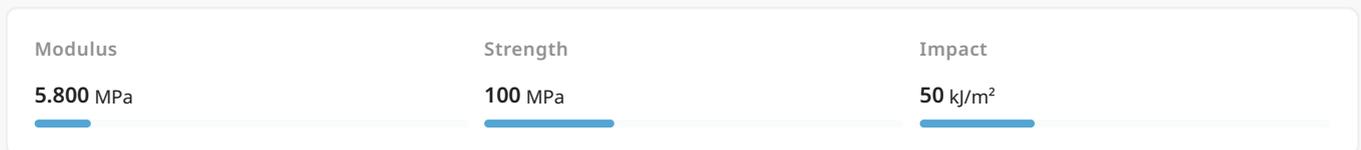
PK GF20

AKROTEK® PK-VM GF 20 8 natural (6982) is a 20% glass fibre reinforced, low viscous polyketone with average stiffness and strength and light inherent color. Please note that the material is NOT suitable anymore for drinking water contact and does NOT meet the requirements according to KTW, DVGW W270, ACS, WRAS as well as NSF61 and does NOT correspond to the European food guideline EU 10/2011 as well as to the American FDA 21 CFR guideline.

Features

hydrolysis / chemically stabilised

Properties



Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	5800 MPa
	1 mm/min conditioned	5600 MPa
Tensile stress at break ISO 527-2	5 mm/min d.a.m.	100 MPa
	5 mm/min conditioned	90 MPa
Tensile strain at break ISO 527-2	5 mm/min d.a.m.	2,5 %
	5 mm/min conditioned	2,5 %
Charpy impact strength ISO 179-1/1eU	23°C d.a.m.	50 kJ/m²
	23°C conditioned	45 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	210 °C
Melting temperature ISO 11357-3	DSC, 10K/min	220 °C

Flammability

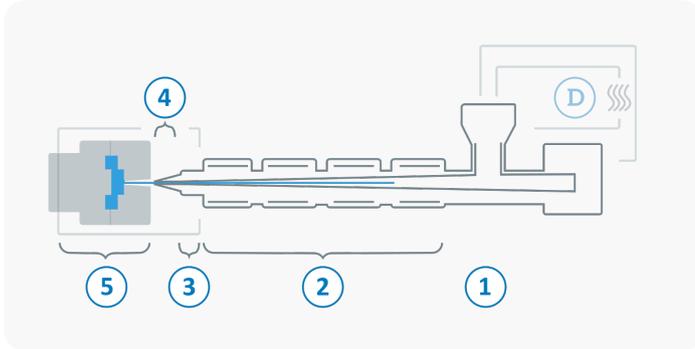
Flammability UL 94	1,6 mm Wall thickness	HB Class
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	+

General Properties

Density ISO 1183	23°C	1,4 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	0,6 - 0,7 %
Molding shrinkage ISO 294-4	flow	0,4 - 0,6 %
	transverse	0,9 - 1,1 %

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	0 - 4 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	80 °C
	Processing moisture	0,02 - 0,1 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	220 - 260 °C
3	Nozzle temperature	230 - 260 °C
4	Melt temperature	230 - 260 °C
5	Mold temperature	60 - 120 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	30 - 70 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min



Polyketones crosslink depending on time and temperature, crosslinking is noticed by an increase of viscosity and/or dark spots in natural colored compounds. The melt temperature should be at or below 260 °C and under no circumstances go beyond 270 °C because crosslinking speed will increase. The use of a hot runner system is not recommended when processing polyketone. However, if it is used, it should be noted that the residence time in the barrel including the hot runner should not exceed 10 min. If interruptions of more than 10 minutes are expected, the barrel and hot runner need to be purged and cleaned with polyolefins. The molding machine needs to be purged with polyolefins before and after processing of AKROTEK® PK! There is a risk of cross linking caused by reactions with POM or PA as well as unsuitable masterbatches or cleaning compounds! Crosslinking is noticed by an increase of viscosity and or dark spots in natural colored compounds. In this case purge immediately with polyolefins. Further processing instructions are available on request.