

AKROTEK®

PK-VM 8 black (6466)

PK

AKROTEK® PK-VM 8 black (6466) is an unreinforced, low viscous polyketone. The material is suitable for drinking water contact and meets the requirements according to ACS as well as NSF61. Moreover the material corresponds to the European food guideline EU 10/2011. Conformity to the American FDA 21 CFR guideline does NOT exist.

Features

hydrolysis / chemically stabilised

Regulatory



Properties

Modulus	Strength	Impact
1.600 MPa	60 MPa	180 kJ/m ²

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	1600 MPa
	1 mm/min conditioned	1600 MPa
Tensile stress at yield ISO 527-2	50 mm/min d.a.m.	60 MPa
	50 mm/min conditioned	60 MPa
Tensile strain at yield ISO 527-2	50 mm/min d.a.m.	> 15 %
	50 mm/min conditioned	> 15 %
Tensile strain at break ISO 527-2	50 mm/min d.a.m.	> 100 %
	50 mm/min conditioned	> 100 %
Charpy impact strength ISO 179-1/1eU	23°C d.a.m.	no break
	23°C conditioned	no break
Charpy notched impact strength ISO 179-1/1eA	23°C d.a.m.	12 kJ/m²
	23°C conditioned	12 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	100 °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	1,24 g/cm ³
----------------------------	------	------------------------

Humidity absorption ISO 1110	70°C, 62% r.H.	0,8 - 0,9 %
--	----------------	-------------

Molding shrinkage ISO 294-4	flow	1,7 - 1,9 %
	transverse	1,9 - 2,1 %

Electrical Properties

Volume resistivity IEC 62631-3-1	d.a.m.	10 ¹³ Ω x cm
--	--------	-------------------------

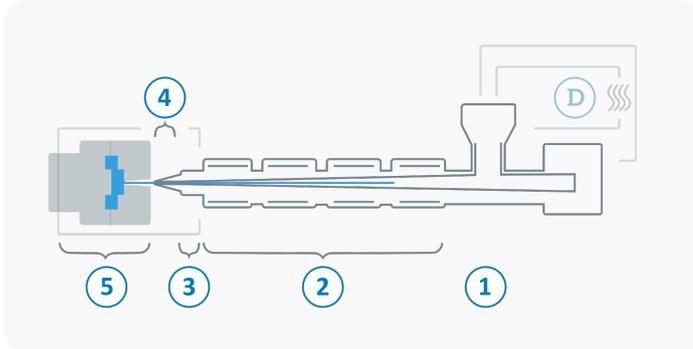
Surface resistivity IEC 62631-3-2	d.a.m.	10 ¹³ Ω
---	--------	--------------------

Rheological Properties

MVR ISO 1133	240°C/2,16kg	50 cm ³ /10 min
------------------------	--------------	----------------------------

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 - 250 °C
3	Nozzle temperature	230 - 250 °C
4	Melt temperature	230 - 250 °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 polyketon. 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 polyolefines. The molding machine needs to be purged with polyolefines 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 polyolefines. Further processing instructions are available on request.