

AKROTEK® PK-VM 8 natural (6146)

PK

AKROTEK® PK-VM 8 natural (6146) is an unreinforced Polyketone with high flowability. The outstanding friction and wear properties enable the use for demanding components exposed to tribological stress. PK is characterized by its outstanding media resistance, which qualifies it to be used for components that are in contact with chemicals. Moreover the material corresponds to the WRAS, European food guideline EU 10/2011 and to the American FDA 21 CFR.

Features

hydrolysis / chemically stabilised

Regulatory



Properties

Modulus

1.500 MPa

Strength

60 MPa

Impact

180 kJ/m²

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	1500 MPa
	1 mm/min conditioned	1500 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 break ISO 527-2	50 mm/min d.a.m.	> 200 %
	50 mm/min conditioned	> 200 %
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.	10 kJ/m ²
	23°C conditioned	10 kJ/m ²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	100 °C
ISO 75		

Melting temperature	DSC, 10K/min	220 °C
ISO 11357-3		

Flammability

Flammability	1,6 mm Wall thickness	HB Class
UL 94		

Burning rate (<100 mm/min)	> 1 mm Thickness	+
FMVSS 302		

General Properties

Density	23°C	1,24 g/cm ³
ISO 1183		

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

Water absorption	23°C, saturated	2,0 - 2,4 %
ISO 62		

Molding shrinkage	flow	1,4 - 1,6 %
ISO 294-4	transverse	1,5 - 1,7 %

Electrical Properties

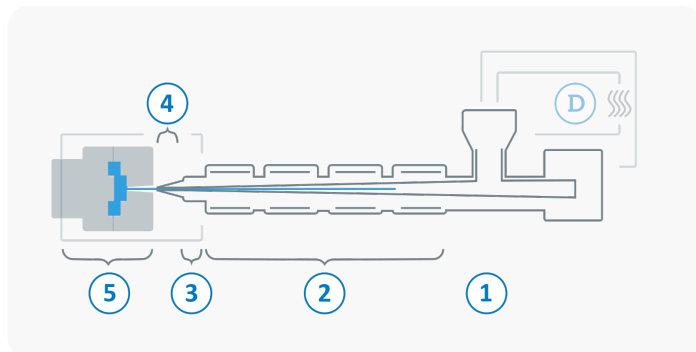
Surface resistivity	d.a.m.	10 ¹³ Ω
IEC 62631-3-2	conditioned	10 ¹⁰ Ω

Rheological Properties

MVR	240°C/2,16kg	60 cm ³ /10 min
ISO 1133		

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