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AKRO COMPOUNDS

Compound No.: **4953**

AKROTEK®
PK-HM black (4953)

PK

AKROTEK® PK-HM black (4953) is an unreinforced Polyketone with average 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. The most important markets for AKROTEK® PK are the automotive and furniture industry and mechanical engineering.

Features

hydrolysis / chemically stabilised

Properties

Modulus	Strength	Impact
1.500 MPa	**60** MPa	**180** kJ/m²

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min | d.a.m. 1 mm/min | conditioned	**1500 MPa** **1500 MPa**
Tensile stress at yield ISO 527-2	50 mm/min | d.a.m. 50 mm/min | conditioned	**60 MPa** **60 MPa**
Tensile strain at break ISO 527-2	50 mm/min | d.a.m. 50 mm/min | conditioned	**> 300 %** **> 300 %**
Charpy impact strength ISO 179-1/1eU	23°C | d.a.m. 23°C | conditioned	**no break** **no break**
Charpy notched impact strength ISO 179-1/1eA	23°C | d.a.m. 23°C | conditioned	**15 kJ/m²** **15 kJ/m²**

Thermal Properties

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

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Temperature of deflection under load HDT/B ISO 75	0,45 MPa	**190 °C**
Melting temperature ISO 11357-3	DSC, 10K/min	**220 °C**

Flammability

Flammability UL 94	UL 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/cm³**
Humidity absorption ISO 1110	70°C, 62% r.H.	**0,8 - 0,9 %**
Molding shrinkage ISO 294-4	flow transverse	**1,4 - 1,6 %** **1,5 - 1,7 %**

Electrical Properties

Surface resistivity IEC 62631-3-2	d.a.m. conditioned	**10^{13} Ω** **10^{10} Ω**

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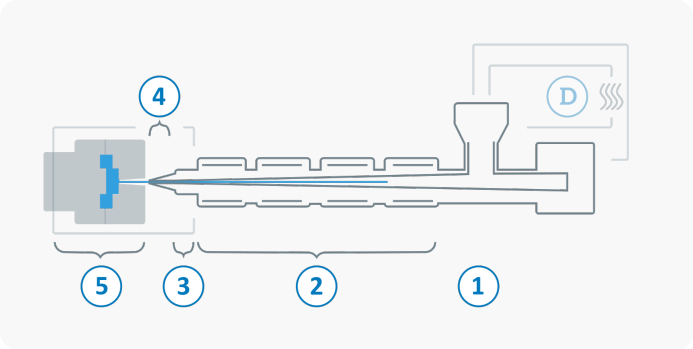
Processing

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	0 - 4 h
	Drying temperature (τ <= -30°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