

AKROTEK® PK-HM 8 natural (6145)

PK

AKROTEK® PK-HM 8 natural (6145) 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. Moreover the material corresponds to WRAS, the European food guideline EU 10/2011 and to the American FDA 21 CFR.

Features

hydrolysis / chemically stabilised

Regulatory



Properties

Modulus

1.400 MPa

Strength

60 MPa

Impact

180 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

1400 MPa

1 mm/min | conditioned

1400 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.

21 %

50 mm/min | conditioned

21 %

Tensile strain at break

ISO 527-2

50 mm/min | d.a.m.

> 300 %

50 mm/min | conditioned

> 300 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

1500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

60 MPa

Charpy impact strength ISO 179-1/1eU	23°C d.a.m. 23°C conditioned	no break no break
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Charpy notched impact strength ISO 179-1/1eA	23°C d.a.m. 23°C conditioned	13 kJ/m² 13 kJ/m²
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Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	100 °C
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Melting temperature ISO 11357-3	DSC, 10K/min	220 °C
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Flammability

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

Density ISO 1183	23°C	1,24 g/cm³
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Humidity absorption ISO 1110	70°C, 62% r.H.	0,8 - 0,9 %
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Water absorption ISO 62	23°C, saturated	2,0 - 2,4 %
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Molding shrinkage ISO 294-4	flow transverse	1,4 - 1,6 % 1,5 - 1,7 %
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Rheological Properties

MVR ISO 1133	240°C/2,16kg	6 cm³/10 min
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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 ($\tau \leq -30^{\circ}\text{C}$)	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