

AKROTEK®

PK-VM GF 30 black (8655)

PK GF30

AKROTEK® PK-VM GF 30 black (8655) is a 30% glass fiber reinforced Polyketone with average stiffness and strength. Due to its very good media resistance, the material is suitable for the use in applications that carry cooling water. The material can be laser marked. This type was developed as the successor to PK-VM GF 30 black (4896) in order to meet the requirements for a larger processing window during processing.

Features

hydrolysis / chemically stabilised E-Mobility

Properties



Mechanical Properties

Tensile modulus	1 mm/min d.a.m.	8500 MPa
ISO 527-2	1 mm/min conditioned	8200 MPa
Tensile stress at break	5 mm/min d.a.m.	130 MPa
ISO 527-2	5 mm/min conditioned	130 MPa
Tensile strain at break	5 mm/min d.a.m.	3,0 %
ISO 527-2	5 mm/min conditioned	3,0 %
Flexural modulus	2 mm/min d.a.m.	8200 MPa
ISO 178		
Flexural strength	2 mm/min d.a.m.	210 MPa
ISO 178		
Charpy impact strength	23°C d.a.m.	70 kJ/m²
ISO 179-1/1eU	-30°C d.a.m.	70 kJ/m²
	-40°C d.a.m.	70 kJ/m²

Charpy notched impact strength	23°C d.a.m.	11 kJ/m²
ISO 179-1/1eA	23°C conditioned	14 kJ/m²
	-30°C d.a.m.	11 kJ/m²
	-40°C d.a.m.	10 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	215 °C
ISO 75		
Melting temperature	DSC, 10K/min	220 °C
ISO 11357-3		
Coefficient of linear thermal expansion	23°C to 80°C parallel	0,18 10⁻⁴/K
ISO 11359-1/2	23°C to 80°C transverse	1,16 10⁻⁴/K

Flammability

Flammability	1,6 mm Wall thickness	HB Class
UL 94		
GWFI	0,8 mm Wall thickness	725 °C
IEC 60695-2-12	1,6 mm Wall thickness	725 °C
HWI	1,6 mm Wall thickness	1 PLC
UL 746A		

General Properties

Density	23°C	1,48 g/cm³
ISO 1183		
Humidity absorption	70°C, 62% r.H.	0,6 - 0,7 %
ISO 1110		
Molding shrinkage	flow	0,3 - 0,5 %
ISO 294-4	transverse	0,8 - 1,0 %

Electrical Properties

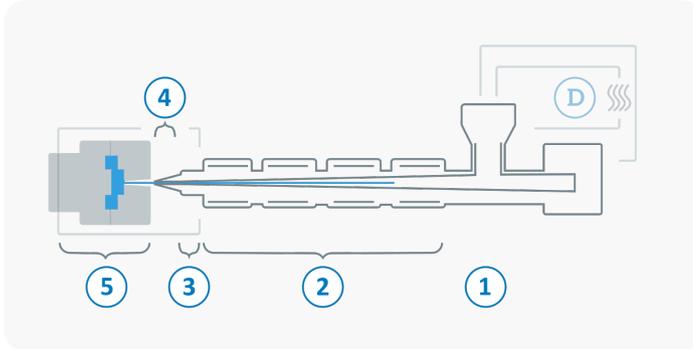
Volume resistivity IEC 62631-3-1	d.a.m.	10¹³ Ω x cm
Surface resistivity IEC 62631-3-2	d.a.m.	10¹² Ω
Comparative tracking index IEC 60112	Test liquid A	600 V

Rheological Properties

MVR ISO 1133	240°C/2,16kg	4 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 - 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

Diagrams

