

AKROTEK®  

PK-VM GF 30 FR orange (8537)

PK GF30 FR(40)

AKROTEK® PK-VM GF 30 FR orange (8537) is a 30% glass fibre reinforced, flame retardant and process improved Polyketone compound, colored in orange similar to RAL 2003. The flame retardant system is free of red phosphorous and halogens. Due to its good chemical resistance, good dimensional stability and high elongation at break it is suitable for high voltage components in e-mobility.

Features

hydrolysis / chemically stabilised flame retardant

process improved E-Mobility

Regulatory



Properties

Modulus

8.600 MPa

Strength

125 MPa

Impact

70 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

8600 MPa

1 mm/min | conditioned

8200 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

125 MPa

5 mm/min | conditioned

120 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3,5 %

5 mm/min | conditioned

3,5 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

9000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

190 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

4 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

70 kJ/m²

23°C | conditioned

70 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

13 kJ/m²

23°C | conditioned

15 kJ/m²

Thermal Properties

RTI electrical

UL 746B

UL 0,8mm Wall thickness

105 °C

UL 1,6mm Wall thickness

105 °C

UL 3,2mm Wall thickness

105 °C

RTI impact

UL 746B

UL 0,8mm Wall thickness

70 °C

UL 1,6mm Wall thickness

70 °C

UL 3,2mm Wall thickness

80 °C

RTI strength

UL 746B

UL 0,8mm Wall thickness

115 °C

UL 1,6mm Wall thickness

115 °C

UL 3,2mm Wall thickness

125 °C

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

213 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

220 °C

Ball pressure test

IEC 60695-10-2

> 115 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,14 10⁻⁴/K

23°C to 80°C | transverse

1,19 10⁻⁴/K

Flammability

Flammability

UL 94

UL 0,8 mm Wall thickness

V-0 Class

UL 1,6 mm Wall thickness

V-0 Class

UL 3,2 mm Wall thickness

V-0 Class

GWFI

IEC 60695-2-12

UL 0,8 mm Wall thickness

960 °C

UL 1,6 mm Wall thickness

960 °C

UL 3,2 mm Wall thickness

960 °C

GWIT

IEC 60695-2-13

UL 0,8 mm Wall thickness

825 °C

UL 1,6 mm Wall thickness

825 °C

UL 3,2 mm Wall thickness

850 °C

HWI UL 746A	UL 0,8 mm Wall thickness	0 PLC
	UL 1,6 mm Wall thickness	0 PLC
	UL 3,2 mm Wall thickness	0 PLC
HAI UL 746A	UL 0,8 mm Wall thickness	0 PLC
	UL 1,6 mm Wall thickness	0 PLC
	UL 3,2 mm Wall thickness	0 PLC
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	+

General Properties

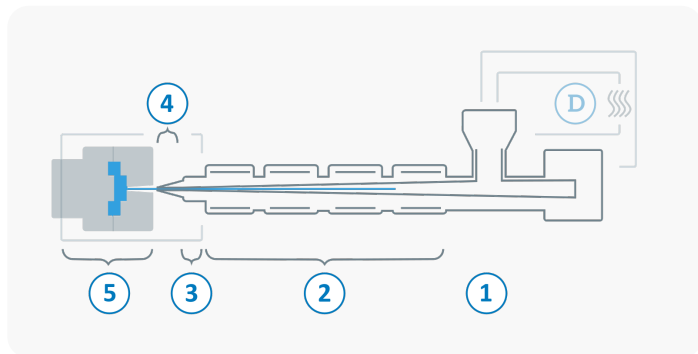
Density ISO 1183	23°C	1,48 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	0,4 - 0,6 %
Molding shrinkage ISO 294-4	flow transverse	0,3 - 0,5 % 0,8 - 1,0 %

Electrical Properties

Volume resistivity IEC 62631-3-1	UL d.a.m.	10¹⁰ Ω x cm
Surface resistivity IEC 62631-3-2	UL d.a.m.	10¹³ Ω
Comparative tracking index IEC 60112	UL Test liquid A	600 V
Comparative tracking index ASTM D3638	UL	0 PLC
Dielectric strength IEC 60243	1 mm	29 kV/mm
Inclined-Plane Tracking, IPT ASTM D2303-13	UL	1 kV

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	210 - 240 °C
3	Nozzle temperature	230 - 240 °C
4	Melt temperature	230 - 240 °C
5	Mold temperature	60 - 100 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	30 - 50 bar
	Injection speed	medium
	Screw speed	5 - 10 m/min