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PK – Polyketone PK GF30

AKROTEK® PK-VM GF 30 8 natural (6983)

Tensile modulus	Stress at break	Charpy impact strength
8200 MPa	**130 MPa**	**60 kJ/m²**
1 mm/min	**5 mm/min**	**23°C**
ISO 527-2	ISO 527-2	ISO 179-1/1eU

AKROTEK® PK-VM GF 30 8 natural (6983) is a 30% glass fibre reinforced, low viscous polyketone with high stiffness and strength and light inherent color. The material is suitable for drinking water contact and meets the requirements according to KTW, DVGW W270, ACS, WRAS as well as NSF61. Moreover the material corresponds to the European food guideline EU 10/2011, but not to the American FDA 21 CFR.

Typical applications

Mainly components in domestic and industrial applications that are in contact with food or drinking water.

Regulatory

ACS · E 10/2011 · KTW · NSF · DVGW · WRAS

Mechanical Properties

Tensile modulus (1 mm/min | ISO 527-2)	
d.a.m.	8200 MPa
conditioned	8200 MPa
Stress at break (5 mm/min | ISO 527-2)	
d.a.m.	130 MPa
conditioned	120 MPa
Strain at break (5 mm/min | ISO 527-2)	
d.a.m.	2,5 %
conditioned	2,5 %
Charpy impact strength (23°C | ISO 179-1/1eU)	
d.a.m.	60 kJ/m²
conditioned	60 kJ/m²
Charpy notched impact strength (23°C | ISO 179-1/1eA)	
d.a.m.	14 kJ/m²
conditioned	14 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A (1,8 MPa | ISO 75)	215 °C
Melting temperature (DSC, 10K/min | DIN EN 11357-1)	220 °C

Flammability

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

General properties

Density (23°C | ISO 1183)	1,48 g/cm³
Humidity absorption (70°C, 62% r.H. | ISO 1110)	0,6-0,7 %
Molding shrinkage (flow | ISO 294-4)	0,2-0,4 %
Molding shrinkage (transverse | ISO 294-4)	0,6-0,8 %

Disclaimer:
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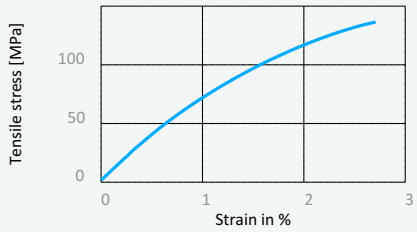
Stress strain chart at 23°C



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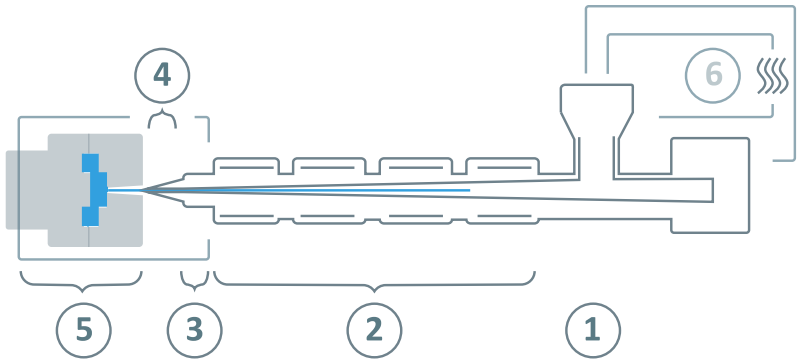
Processing information

The listed values are recommendations. Higher values should be used for higher glass loadings. We recommend only de-humidifying or vacuum dryers. Extensive drying can cause filling problems and surface defects.



6	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 - 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

Warning

The molding machine needs to be purged with polyolefines before and after processing of AKROTEK® PK! There is a risk of cross linking caused by reactions with POM or PA as well as unsuitable master batches! Cross linking is visible through dark spots! In this case purge immediately with polyolefines.

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