

## Preliminary Product Information

# VESTAKEEP® Film 0FH90

VESTAKEEP® film 0FH90 is a cast film based on 100% unreinforced polyether ether ketone (PEEK). The film is amorphous with a matte/glossy surface finish.

The material features low extrusion related internal stresses and is ideal to thermoform 3D parts from, e.g. small speaker membranes.

Application examples:

- electrical insulation
- thermoformed thin parts
- loudspeaker membranes

Important notice: Amorphous PEEK film undergoes crystallization at above its glass transition temperature around 150°C. This should be taken into account upon processing as well as in final applications. The crystallization can only be reversed by heating to the melt followed by quenching.

**VESTAKEEP® film properties include:**

- High continuous use temperature
- Excellent chemical resistance
- Tough and impact resistant
- Low creep
- Low abrasion, low coefficient of friction
- Low water absorption
- Electrical insulation
- Low flammability
- Free of flame retardants, no halogens
- Approved for food contact
- Low weight
- Recyclable (neat PEEK resin)
- Stable towards ionizing irradiation
- RoHS compliant

### Secondary processes

VESTAKEEP films can be processed by many secondary processes, e.g.:

- Die and water-jet cutting
- Surface treatment (corona, plasma, flame)
- Thermoforming
- Adhesive bonding
- Welding, sealing, printing

### Availability:

Thicknesses ranging from 16µm up to 125µm are available.

Standard thicknesses are 16, 25, 38, 50 and 75µm.

Films are supplied in roll form with 3'' or 6'' core. Please inquire for certain thicknesses or widths.

### Contact:

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## VESTAKEEP® film 0FH90 – physical and mechanical properties

Property	Test method	Unit	VESTAKEEP 0FH90 25µm	
Specific Gravity	23°C	ISO 1183	g/cm <sup>3</sup>	1.26
Glass transition temperature T <sub>g</sub>		DSC 2 <sup>nd</sup> heating	°C	~150°C
Cold crystallization onset			°C	>165°C
Tensile test	100mm/min	ISO 527-3		
Tensile Strength			MPa (psi)	90 (13,000)
Yield Strength			MPa (psi)	60 (8,700)
Strain at break				>150%
Young's modulus		ISO 527	GPa (psi)	2.0 (290,000)

## VESTAKEEP® film – Dielectric strength comparison

		Unit	25µm (1mil)	50 (2mil)	75 (3mil)	125 (5mil)	190 (7.5mil)
VESTAKEEP 0FH90 (amorphous)							
Breakdown Voltage	IEC 60243-1	kV			13.5	17.5	
Dielectric Strength		kV/mm (V/mil)			190 (7,500)	140 (5,500)	
Comparative data for crystallized film							
Breakdown Voltage	IEC 60243-1	kV	6.3	10	13	16	20
Dielectric Strength		kV/mm (V/mil)	250 (9,800)	190 (7,500)	170 (6,700)	124 (4,900)	103 (4,000)

## VESTAKEEP® – Bulk Electrical Properties (Resin data)

Property	Test method	Unit	VESTAKEEP resin
Relative permittivity	50 Hz		2.8
	1 kHz		2.9
	1 MHz		2.8
Dissipation factor	1 kHz		0.003
	1 MHz		0.005
Comparative tracking index	CTI		200
Test solution A	100 drops value		175
Volume resistance	IEC 60093	Ohm	10 <sup>14</sup>
Volume resistivity	IEC 60093	Ohm · cm	10 <sup>15</sup>
Surface resistance R <sub>0A</sub>	IEC 60093	Ohm	10 <sup>14</sup>
Spec. surface resistance	IEC 60093	Ohm	10 <sup>15</sup>

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