
SynTherm® PEEK

SynTherm® PEEK film is the unfilled semi-crystalline film made from PEEK polymer. The film provides a material solution for engineering in ultra-high performance application.

Attributes

SynTherm® PEEK is a comprehensive range of versatile, high-performance films, the use of which can facilitate reduced system costs, improved performance and enhanced design freedom.

SynTherm® PEEK has a unique combination of properties providing high temperature performance, lightweight, mechanical strength, durability, excellent radiation, hydrolysis and chemical resistance, electrical insulation, wear and abrasion resistance, excellent barrier properties with high purity, good flammability without the use of flame retardants, low toxicity of combustion products, and low moisture absorption if a film format. Inherently halogen-free and ease of processing make PEEK film a technology enabler for our customer and end user.

Application

SynTherm® PEEK is used as electrical insulation, pressure sensitive tapes, printed circuit substrates, high temperature labels, washers in high speed motors, washers in mobile phone hinges, flexible surface heaters, aerospace insulation, pressure sensor membranes, acoustic speaker diaphragm, capacitors, composites and other high performance fields.

Standards

Class R insulating material (200 °C).
RoHS compliant according to 2002/95 EC.

Storage

Store in a frost-free environment up to 50°C. Do not store in direct sunlight. The shelf life is several years.

Delivery forms:

Total thickness in µm:
8, 18, 25, 50, 100, 125, 150, 200, 250, 300, 500 and 650

SynTherm® PEEK is available:

- in tapes: depending on material thickness on request
beginning at 6mm (thin material)

- in rolls: standard width: 610mm and up to 1400mm on request.

The information on this data sheet is based on the information provided by our supplier. It does not represent any Specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.

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Technical data

Items	Unit	SynTherm® PEEK			
		0.025	0.050	0.125	0.250
Total thickness	mm	0.025	0.050	0.125	0.250
Thickness tolerance	%	±7	±7	±7	±7
Specific weight	g/m ²	34	68	169	338
Tensile Strength MD	MPa	140	130	120	110
Tensile Strength XD	MPa	120	120	120	110
Elongation MD	%	150	150	150	150
Elongation XD	%	150	150	150	150
Tensile Modulus MD	Gpa	2.6	2.5	2.3	2.3
Tensile Modulus XD	GPa	2.8	2.5	2.3	2.3
Breakdown voltage	kV/mm	270	190	120	70
Shrinkage at 200°C	%	0.5	0.5	0.5	0.5
Water absorption (50%RH, 24hr)	%	0.04	0.04	0.04	0.04
Coefficient of linear thermal expansion	ppm/°C	47	47	47	47
Dielectric constant	NA	3.5	3.5	3.5	3.5
Loss Tangent	NA	0.002	0.002	0.002	0.002
Volume Resistance	Ohm.cm	4.00E+16	4.00E+16	4.00E+16	4.00E+16

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