

Material Data Sheet

PEEK - Polyether ether ketone

PEEK (polyetheretherketone) is a high-performance engineering plastic with outstanding resistance to harsh chemicals, and excellent mechanical strength and dimensional stability.

Item	Test Standard or Instrument	Unit	PEEK-N	PEEK-GF30	PEEK-CF30	PEEK-HPV
Physical Properties						
Color	-		Natural or Black	Natural or Black	Black	Black
Density	ISO 1183-1	g/cm ³	1.3±0.01	1.5±0.01	1.4±0.01	1.43±0.01
Water Abs. (25°C, 24Hrs)	ISO 62	%	0.5	0.11	0.06	0.06
Mould shrinking percentage	3mm, 170°C, Flow direction	%	1.2	0.4	0.1	0.3
	Perpendicular to flow direction	%	1.5	0.8	0.5	0.5
Thermal Properties						
Melting point	ISO 11357	°C	343	343	343	343
Distortion temperature	ISO 75-1/-2	°C	163	315	315	293
Continuous using temperature	UL 74685	°C	260	260	260	260
Glass transition temperature	ISO 11357	°C	143	-	-	-
Mechanical Properties						
Tensile strength(23°C)	ISO527-2/1B/50	Mpa	100	155	220	134
Tensile elongation(23°C)	ISO527-2/1B/50	%	34	2	1.8	2.2
Bending strength(23°C)	ISO 178	Mpa	163	212	298	186
Compressive strength(23°C)	ISO 604	Mpa	118	215	240	150
Lzod impact strength(no gap)	ISO 180/U	KJm ⁻²	No crack	51	46	32
Rockwell hardness	ISO 2039-2		99	103	107	102
Friction coefficient	-	μ	0.30-0.38	0.38-0.46	0.28	0.18
Electrical Properties						
Dielectric strength	IEC 60243-1	KV/mm	18	19		
Dielectric constant	IEC 60250		3.2	3.3		
Surface resistivity	IEC 90093	Ω	10 ¹⁵ Ω	10 ¹⁵ Ω	3×10 ⁶ Ω	5×10 ⁶ Ω
Miscellaneous Data						
Flammable level	UL 94	V-0@mm	1.5	1.5	1.5	0.75
NOTE: *The data stated above are typical values intended for reference and comparison purposes only. *The data should not be used as a basis for design specifications or quality control. *The information is provided as a guide to the best of our knowledge and given without obligation or liability. *Testing under individual application circumstances is recommended.						

* PEEK-N, Natural (Unfilled) PEEK

* PEEK-GF30, 30% Glass Filled PEEK

* PEEK-CF30, 30% Carbon Filled PEEK

* PEEK-HPV, 10% Carbon + 10% Graphite + 10% PTFE filled PEEK