



## PEEK

Properties	Test Methods	Units	Values
Density	ISO 1183-1	g/cm <sup>3</sup>	1.31
<b>Water absorption:</b>			
- after 24/96 hrs immersion in water of 23°C	ISO 62	mg	5 / 10
	ISO 62	%	0.06 / 0.12
- at saturation in air of 23°C / 50% RH	-	%	0.20
- at saturation in water of 23°C	-	%	0.45
<b>Thermal Properties</b>			
Melting temperature ( DSC, 10°C/min)	ISO 11357-1/-3	°C	340
Glass transition Temperature (DSC, 20°C.min)	ISO 11357-1/-2	°C	-
Thermal conductivity at 23°C	-	W/(m.K)	0.25
<b>Coefficient of linear thermal expansion:</b>			
- average value between 23°C and 100°C	-	m/(m.K)	50 x 10 <sup>-6</sup>
- average value between 100°C and 150°C	-	m/(m.K)	55 x 10 <sup>-6</sup>
- average value above 150°C	-	m/(m.K)	130 x 10 <sup>-6</sup>
<b>Temperature of deflection under load:</b>			
- method A: 1.8 Mpa	ISO 75-1/-2	°C	160
<b>Max. allowable service temperature in air:</b>			
- for short periods	-	°C	310
- continuously; for min. 20,000 hrs	-	°C	250
Min. service temperature	-	°C	-50
<b>Flammability:</b>			
- "Oxygen Index"	ISO 4589-1/-2	%	35
- according to UL 94 (3 / 6mm thickness)	-	-	V-0 / V-0
<b>Mechanical Properties at 23°C</b>			
<b>Tension test:</b>			
- tensile stress at yield / tensile stress at break	ISO 527-1/-2	MPa	115 / -
- tensile strength	ISO 527-1/-3	MPa	115
- tensile strain at yield	ISO 527-1/-4	%	5
- tensile strain at break	ISO 527-1/-5	%	17
- tensile modulus of elasticity	ISO 527-1/-7	MPa	4300
<b>Compression test</b>			
- compressive stress at 1 / 2 / 5 % nominal strain	ISO 604	MPa	38 / 75 / 140
Charpy impact strength - Unnotched	ISO 179-1/1eU	kJ/m <sup>2</sup>	no break
Charpy impact strength - Notched	ISO 179-1/1eA	kJ/m <sup>2</sup>	3.5
Ball indentation hardness	ISO 2039-1	N/mm <sup>2</sup>	210
Rockwell hardness	ISO 2039-2	-	M105
<b>Electrical Properties at 23°C</b>			
Electric strength	IEC 60243-1	kV/mm	20
Volume resistivity	IEC 60093	Ohm.cm	>10 <sup>14</sup>
Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq.	>10 <sup>15</sup>
Relative permittivity $\epsilon_r$ : - at 100 Hz	IEC 60250	-	3.2
Relative permittivity $\epsilon_r$ : - at 1 MHz	IEC 60250	-	3.2
Dielectric dissipation factor $\tan \delta$ : - at 100 Hz	IEC 60250	-	0.001
Dielectric dissipation factor $\tan \delta$ : - at 1 MHz	IEC 60250	-	0.002
Comparative tracking index (CTI)	IEC 60112	-	150

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