

Physical properties PA 66 E + 30 % GF

Properties	Test methods	Units	Values
Colour	-	-	black
Density	ISO 1183-1	g/cm ³	1.29
Water absorption: after 24/96 h immersion in water of 23°C	ISO 62	mg	30 / 56
	ISO 62	%	0.39 / 0.74
at saturation in air of 23°C / 50% RH	-	%	1.7
at saturation in water of 23°C	-	%	5.5
Thermal Properties			
Melting temperature (DSC, 10° C/min.)	ISO 11357-1/-3	°C	260
Glass transition temperature		°C	-
Thermal conductivity at 23°C	-	W/(K.m)	0.30
Coefficient of linear thermal expansion: average value between 23 and 60°C	-	m/(m.K)	50 x 10 ⁻⁶
average value between 23 and 100°C	-	m/(m.K)	60 x 10 ⁻⁶
Temperature of deflection under load: method A: 1.8 MPa	+ ISO 75-4/-2	°C	150
Max. allowable service temperature in air: for short periods	-	°C	200
continuously: for 5'000 / 20'000 h	-	°C	120 / 110
Min. service temperature	-	°C	-20
Flammability: „Oxygen Index“ according to UL 94 (3 / 6 mm thickness)	ISO 4589-1/-2	%	-
	-	-	HB / HB
Mechanical Properties at 23°C			
Tension test: tensile stress at yield / tensile stress at break	+ ISO 527-1/-2	MPa	NYP / 85
	++ ISO 527-1/-2	MPa	-
Ttensile strength	+ ISO 527-1/-2	MPa	85
tensile strain at yield	+ ISO 527-1/-2	%	NYP / 85
tensile strain at break	+ ISO 527-1/-2	%	5
	++ ISO 527-1/-2	%	-
tensile modulus of elasticity	+ ISO 527-1/-2	MPa	5000
	++ ISO 527-1/-2	MPa	2700
Compression test: compressive stress at 1 / 2 / 5% nominal strain	+ ISO 604	MPa	43 / 77 / 112
Charpy impact strength - unnotched	+ ISO 179-1/1eU	kJ/m ²	50
Charpy impact strength - notched	+ ISO 179-1/1eA	kJ/m ²	6
Ball indentation hardness	+ ISO 2039-1	N/mm ²	165
Rockwell hardness	+ ISO 2039-2	-	M76
Electrical Properties at 23°C			
Electrical strength	+ IEC 60243-1	kV/mm	27
	++ IEC 60243-1	kV/mm	18
Volume resistivity	+ IEC 60093	Ohm.cm	> 10 ¹⁴
	++ IEC 60093	Ohm.cm	> 10 ¹³
Surface resistivity	+ IEC 60093	Ohm	> 10 ¹³
	++ IEC 60093	Ohm	> 10 ¹²
Relative permittivity ε _r : - bei 100 Hz	+ IEC 60250	-	3.9
	++ IEC 60250	-	6.9
- bei 1 MHz	+ IEC 60250	-	3.6
	++ IEC 60250	-	3.9
Dielectric dissipation factor δ tan: - bei 100 Hz	+ IEC 60250	-	0.012
	++ IEC 60250	-	0.19
- bei 1 MHz	+ IEC 60250	-	0.014
	++ IEC 60250	-	0.04
Comparative tracking index (CTI)	+ IEC 60112	-	475
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Note: 1 g/cm³ = 1000 kg/m³; 1 Mpa = 1 N/mm²; 1 kV/mm = 1 MV/m.

+ : Values for dry material
 ++ : Values for up to saturation
 in air of 23 °C / 50%
 RF material stored (mostly
 derived from large)

This table is a valuable help in
 the choice of a material. The
 data listed here fall within the
 normal range of products
 properties, but they should not
 be used to establish material
 specification limits nor used
 alone as the basis of design.