

Physical properties

PROPERTIES	Test methods ISO / (IEC)	Units	POM
Colour	-	-	Natural/Black black
Density	1183	g/cm ³	1.41
Water absorption:			
- after 24/96 h immersion in water of 23°C (1)	62	mg	20/37
- at saturation in air of 23°C / 50% RH	62	%	0.24/0.45
- at saturation in water of 23°C	-	%	0.2
- at saturation in water of 23°C	-	%	0.85
Thermal Properties (2)			
Melting temperature	-	°C	165
Glass transition temperature (3)	-	°C	-
Thermal conductivity at 23°C	-	W/(K-m)	0.31
Coefficient of linear thermal expansion:			
- average value between 23 and 60°C	-	m/(m-K)	110·10 ⁻⁶
- average value between 23 and 100°C	-	m/(m-K)	125·10 ⁻⁶
Temperature of deflection under load:			
- method A: 1.8 Mpa	+ 75	°C	105
Max. allowable service temperature in air:			
- for short periods (4)	-	°C	140
- continuously: for 5,000 / 20,000 h (5)	-	°C	115/100
Min. service temperature (6)			-50
Flammability (7):			
- "Oxygen Index"	4589	%	15
- according to UL 94 (3 / 6 mm thickness)	-	-	HB/HB
Mechanical Properties at 23°C (8)			
Tension test (9):			
- tensile stress at yield / tensile stress at break (10)	+ 527	Mpa	68/-
	++ 527	MPa	68/-
- tensile strain at break (10)	+ 527	%	35
	++ 527	%	35
- tensile modulus of elasticity (11)	+ 527	Mpa	3,100
	++ 527	Mpa	3,100
Compression test (12):			
- compressive stress at 1/2/5% nominal strain (11)	+ 604	Mpa	19/35/67
Creep test in tension (9):			
- stress to produce 1% strain in 1,000 h (⁰ 1/1,000)	+ 899	Mpa	13
	++ 899	Mpa	13
Charpy impact strength - Unnotched (13)	+ 179/1eU	kJ/m ²	≥150
Charpy impact strength - Notched	+ 179/1eA	kJ/m ²	7
Izod impact strength - Notched	+ 180/2A	kJ/m ²	7
	++ 180/2A	kJ/m ²	7
Ball indentation hardness (14)	+ 2039-1	N/mm ²	140
Rockwell hardness (14)	+ 2039-2	-	M 84
Electrical Properties at 23°C			
Electric strength (15)	+ (60243)	kV/mm	20
	++ (60243)	kV/mm	20
Volume resistivity	+ (60093)	Ω -cm	>10 ¹⁴
	++ (60093)	Ω -cm	>10 ¹⁴
Surface resistivity	+ (60093)	Ω	>10 ¹³
	++ (60093)	Ω	>10 ¹³
Relative permittivity ε _r :			
- at 100 Hz	+ (60250)	-	3.8
	++ (60250)	-	3.8
- at 1 MHz	+ (60250)	-	3.8
	++ (60250)	-	3.8
Dielectric dissipation factor tan δ:			
- at 100 Hz	+ (60250)	-	0.003
	++ (60250)	-	0.003
- at 1 MHz	+ (60250)	-	0.008
	++ (60250)	-	0.008
Comparative tracking index (CTI)	+ (60112)	-	600
	++ (60112)	-	600

Note: 1 g/cm³ = 1,000 kg/m³; 1 Mpa = 1 N/mm²; 1 kV/mm = 1 MV/m.