



NYLON 66

Properties	Test Methods	Units	Values
Density	ISO 1183-1	g/cm ³	1.14
Water absorption:			
- after 24/96 hrs immersion in water of 23°C	ISO 62	mg	40 / 76
	ISO 62	%	0.60 / 1.13
- at saturation in air of 23°C / 50% RH	-	%	2.4
- at saturation in water of 23°C	-	%	8
Thermal Properties			
Melting temperature (DSC, 10°C/min)	ISO 11357-1/-3	°C	260
Glass transition Temperature (DSC, 20°C.min)	ISO 11357-1/-2	°C	-
Thermal conductivity at 23°C	-	W/(m.K)	0.28
Coefficient of linear thermal expansion:			
- average value between 23°C and 60°C	-	m/(m.K)	80 x 10 ⁻⁶
- average value between 23°C and 100°C	-	m/(m.K)	95 x 10 ⁻⁶
Temperature of deflection under load:			
- method A: 1.8 Mpa	+ ISO 75-1/-2	°C	85
Max. allowable service temperature in air:			
- for short periods	-	°C	180
- continuously: for 5,000 / 20,000 hrs	-	°C	95 / 80
Min. service temperature	-	°C	-30
Flammability:			
- "Oxygen Index"	ISO 4589-1/-2	%	26
- according to UL 94 (3 / 6mm thickness)	-	-	HB / HB
Mechanical Properties at 23°C			
Tension test:			
- tensile stress at yield / tensile stress at break	+ ISO 527-1/-2	MPa	90 / -
	++ ISO 527-1/-2	MPa	55 / -
- tensile strength	+ ISO 527-1/-3	MPa	93
- tensile strain at yeild	+ ISO 527-1/-4	%	93
- tensile strain at break	+ ISO 527-1/-5	%	50
	++ ISO 527-1/-6	%	>100
- tensile modulus of elasticity	+ ISO 527-1/-7	MPa	3550
	++ ISO 527-1/-8	MPa	1700
Compression test			
- compressive stress at 1 / 2 / 5 % nominal strain	+ ISO 604	MPa	32 / 62 / 100
Charpy impact strength - Unnotched	+ ISO 179-1/1eU	kJ/m ²	no break
Charpy impact strength - Notched	+ ISO 179-1/1eA	kJ/m ²	4.5
Ball indentation hardness	+ ISO 2039-1	N/mm ²	160
Rockwell hardness	+ ISO 2039-2	-	M 88

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Electrical Properties at 23°C		Test Methods	Units	Values
Electric 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	$>10^{12}$
Surface resistivity	+	IEC 60093	Ohm	$>10^{13}$
	++	IEC 60093	Ohm	$>10^{12}$
Relative permittivity ϵ_r : - at 100 Hz	+	IEC 60250	-	3.8
	++	IEC 60250	-	7.4
Relative permittivity ϵ_r : - at 1 MHz	+	IEC 60250	-	3.3
	++	IEC 60250	-	3.8
Dielectric dissipation factor $\tan \delta$: - at 100 Hz	+	IEC 60250	-	0.013
	++	IEC 60250	-	0.13
Dielectric dissipation factor $\tan \delta$: - at 1 MHz	+	IEC 60250	-	0.020
	++	IEC 60250	-	0.06
Comparative tracking index (CTI)	+	IEC 60112	-	600
	++	IEC 60112	-	600

+ : values referring to dry materials

++ : values referring to material in equilibrium with the standard atmosphere 23oC / 50 % (mostly derived from literature)

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