Material Data Sheet

PA 6.6 GF30

Chem. Designation: Polyamid

DIN-Abbreviation: PA 6.6 GF30

Properties		Value	Unit	ISO/IEC
Density		1,29 / -	g/cm3	1183
Water absorption absolutely 1)		30 / 56	mg	62
Water absorption, relative 1)		0,39 / 0,74	%	62
- at saturation in air of 23°C, 50% RF		1,7 / -	%	
- at saturation in water of 23°C		5,5 / -	%	

Thermal Properties		Value	Unit	ISO/IEC
Crystalline melting point		255 / -	°C	–
Thermal conductivity (23º C)		0,3 / -	W/(k·m)	–
Coefficient of thermal expansion: - average value between 23 and 60°C		50 · 10^–6 / -	m/(m·K)	–
Coefficient of thermal expansion: - average value between 23 and 100°C		60 · 10^–6 / -	m/(m·K)	–
Temperature of deflection under load - Method a: 1,8 MPa		150 / -	°C	75
Max. service temperature in air: -short perods 2		240 / -	°C	–
Max. service temperature in air: -continously: for min. 5000/20.000 h		120 / 110	°C	–
Minimum service temperature		–20 / -	°C	–
Flammability acc. to UL standard 94 (thickness 3mm/6mm)		HB / HB		–

Mechanical Properties (at 23°C)		Value	Unit	ISO/IEC
Tensile strength at yield/Tensile strength at break	dry	- / 100	MPa	527-1/-2
Tensile strength at yield/Tensile strength at break	moist	- / 75	MPa	527-1/-2
Elongation at break	dry	5 / -	%	527-1/-2
Elongation at break	moist	12 / -	%	527-1/-2
Modulus of elasticity in tension	dry	5900 / -	MPa	527-1/-2
Modulus of elasticity in tension	moist	3200 / -	MPa	527-1/-2
Compression Test - 1% nominal strain	dry	28 / -	MPa	604
Tensile creep 3)	dry	26 / -	MPa	899
Tensile creep 3)	moist	18 / -	MPa	899
impact-strength - Charpy unnotched	dry	50 / -	kj/m²	179/1eU
impact-strength Charpy notched	dry	6 / -	kj/m²	179/1eA
impact-strength Izod	dry	6 / 60	kj/m²; J/m	180/2A
impact-strength Izod	moist	11 / 110	kj/m²; J/m	180/A
Ball identation hardness H 358 / 30 or H 961 / 30	dry	165 / -	N/mm²	2039-1
Hardness, Rockwell	dry	M76 / -		2039-2
Coefficient of Friction 4)	dry	0,45 / 0,5	µ	

Electrical Properties		Value	Unit	ISO/IEC
Dielectric strength	dry	30 / -	kV/mm	60243
Dielectric strength	moist	20 / -	kV/mm	60243
Volume resistivity	dry	>10^14 / -	Ohm·cm	60093
Volume resistivity	moist	>10^13 / -	Ohm·cm	60093
Surface resistivity	dry	>10^13 / -	Ohm	60093
Surface resistivity	moist	>10^12 / -	Ohm	60093
Dielectric constant at 100 Hz	dry	3,9 / -		60250
Dielectric constant at 100 Hz	moist	6,9 / -		60250
Dielectric constant at 1 MHz	dry	3,6 / -		60250
Dielectric constant at 1 MHz	moist	3,9 / -		60250
Dielectric dissipation factor tan δ at100 H	dry	0,012 / -		60250

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Electrical Properties		Value	Unit	ISO/IEC
Dielectric dissipation factor tan δ at 100 Hz	moist	0,19 / -		60250
Dielectric dissipation factor tan δ at 1 MHz	dry	0,014 / -		60250
Dielectric dissipation factor tan δ at 1 MHz	moist	0,04 / -		60250
Comparative tracking index (CTI)	dry	CTI 475 / -		60112
Comparative tracking index (CTI)	moist	CTI 475 / -		60112

dry = values referring to dry materials
moist = values referring to material in equilibrium with = the standard atmosphere 23°C/50% RH
o.B. = no break

1) after 24/96h immersion in water of 23°C
2) only for short time exposure (a few hours) in applications where no or only a very low load is applied to the material
3) stress to produce 1% strain in 1000 h (s 1/1000)
4) p = 0,05 N/mm2, v= 0,6 m/s surface roughness C35 steel mating surface Ra 0,7 - 0,9

This table is a valuable help in the choice of material. The data listed here fall within the normal range of product properties. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design. It has to be noted that fibre reinforced material shows an anisotropic behaviour (properties differ when measured parallel and perpendicular to be extrusion direction).