IBERMETAL
ALUMINIOS Y PLÁSTICOS CATALUÑA S.L.



POLYAMIDE 6 + MoS_2 (extruded) Nylatron GS

MoS2 is obtained by adding a material with a stiffness, hardness and better dimensional stability to the PA 6.6 to change some loss of impact strength. The dispersion of molybdenum disulphide in their molecular structure, resulting in increased degree of crystallization, thereby improving its properties of friction and wear.

FEATURES	Test methods IS0/(IEC)	Units	Nylatron GSM
Color	—		gris-antracita
Density	1183	g/cm^3	1,16
Water absorption:			
– after being 24/96 h immersed in water at 23 °C (1)	62	mg	52/98
	62	%	0,76/1,43
– at saturation in air at 23 °C / 50% RH	—	%	2,4
– at saturation in water at 23 °C	—	%	6,7
Thermal properties (2)			
Melting temperature	—	°C	220
Glass transition temperature (3)	—	°C	
Thermal conductivity at 23 °C	—	W/(K-m)	0,3
Coefficient of linear thermal expansion:			
– average value between 23 and 60 °C			80.10^{-6}
– average value between 23 and 100 °C			90.10^{-6}
Load deformation temperature:			
– by Method A: 1.8 MPa	+ 75		80
Maximum service temperature in air:			
– in short periods (4)	—		170

– continuously: for 5,000 / 20,000 h (5)	—		105/90
Minimum working temperature (6)			-30
Flammability (7):			
– “Oxygen Index”	4589	%	25
– respect to the classification UL 94 (3/6 mm thick)	—	—	HB/HB
Mechanical properties at 23 °C (8)			
Tensile test (9):			
– tensile stress for creep / stress at break {10)	+ 527	MPa	78/—
	++ 527	MPa	50/—
– elongation at break (10)	+ 527	%	25
	++ 527	%	>50
– elastic modulus (11)	+ 527	MPa	3300
	++ 527	MPa	1600
Compression test (12):			
– effort to 1/2/5% strain (11)	+ 604	MPa	25/49/88
Tensile creep test (9) :			
– effort required to produce 1% strain	+ 899	MPa	21
at 1.000 h ($\sigma_{1/1000}$)	++ 899	MPa	9
Charpy impact strength – Unnotched (13)	+ 179/1eU	kJ/m^2	SR
Charpy impact strength – notched	+ 179/1eA	kJ/m^2	3,5
Izod impact strength – notched	+ 180/2A	kJ/m^2	3,5
	++ 180/2A	kJ/m^2	7
Ball hardness (14)	+ 2039-1	N/mm^2	160
Rockwell hardness (14)	+ 2039-2	—	M 84
Electrical properties at 23 ° C			
Dielectric strength (15)	+ (60243)	kV/mm	24
	++ (60243)	kV/mm	16
Volume resistivity	+ (60093)	Ω.cm	$> 10^{14}$
	++ (60093)	Ω.cm	$> 10^{12}$
Surface resistivity	+ (60093)	Ω	$> 10^{13}$
	(60093)	Ω	$> 10^{12}$
Relative permeability ε_r: – at 100 Hz	+ (60250)	—	3,6
	++ (60250)	—	6,6
– at 1 MHz	+ (60250)	—	3,2

	++ (60250)	—	3,7
Dissipation Factor tan δ: – at 100 Hz	+ (60250)	—	0,012
	(60250)	—	0,14
– at 1 MHz	+ (60250)	—	0,016
	++ (60250)	—	0,05
Comparative index of resistance to surface discharge (CTI)	+ (60112)	—	600
	++ (60112)	—	600

Note: 1 g/cm3 = 1.000 kg/m3; 1 MPa = 1 N/mm2; 1 kV/mm = 1 MV/m.