









Material Data Sheet










PA6G natural

Chemical Designation : Cast Polyamide 6
 DIN-Abbreviation: PA 6 G
 Colours, fillers: opaque/ yellow

Main features

-  very easily machined
 -  shock absorbing
 -  good sliding properties
 -  very strong
 -  wear resistant
 -  electrically insulating
 -  very tough
 -  resistant to many oils, greases, diesels and petrol
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Preferred Fields

-  mechanical engineering
 -  transport and conveyor technology
 -  textile machinery
 -  building machinery
 -  printing machinery
 -  automotive engineering
 -  gears, couplings and engine construction
 -  packaging and paper processing machinery
 -  agricultural machinery
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Applications

Properties

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Mechanical	dry / moist		standard
Tensile strength at yield	85 / 60	MPa	DIN EN ISO 527
Elongation at break	30 / 50	%	DIN EN ISO 527
Modulus of elasticity in tension	3300 / 1700	MPa	DIN EN ISO 527
Hardness	160 / 90		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	n.b.	KJ/m ²	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load	50	MPa	
Time yield limit for 1% elongation after 1000 h	5	MPa	
Co-efficient of friction p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground	0,4		

Thermal	dry / moist		standard
Crystalline melting point	220	°C	DIN 53 765
Glass transition temperature	40 / 5	°C	DIN 53 765
Heat distortion temperature HDT, Method A	95	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	195	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	170	°C	
long term	100	°C	
Thermal conductivity (23° C)	0,24	W/(K·m)	
Specific heat (23° C)	1,7	J/g.K	
Coefficient of thermal expansion (23-55°C)	7,5 / 9,5	10 ⁻⁵ 1/K	DIN 53 752

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Electrical	dry / moist		standard
Dielectric constant (10 ⁶ Hz)	3,7		DIN 53 483, IEC-250
Dielectric loss factor (10 ⁶ Hz)	0,03-0,30		DIN 53 483, IEC-250
Specific volume resistance	10 ¹² - 5*10 ¹⁴	Ω*cm	DIN IEC 60093
Surface resistance	5*10 ¹²	Ω	DIN IEC 60093
Dielectric strength	25-50	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking	KA 3c KA 3b		DIN 53 480, VDE 0303 Teil 1

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Miscellaneous	dry / moist		standard
Density	1,15	g/cm ³	DIN 53 479
Moisture absorption (23°C/50RH)	2,5	%	DIN EN ISO 62
Water absorption to equilibrium	6,0-7	%	DIN 53 495
Flammability acc. to UL standard 94	HB		
Resistance to hot water, washing soda:	(+)		
Resistance to weathering	-		

(1) Testing of semi-finished products

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