









Material Data Sheet











PA6 black MoS2

Chemical Designation : Polyamide 6
 DIN-Abbreviation: PA 6
 Colours, fillers: black, MoS2

Main features

-  good sliding properties even in dry running conditions
 -  UV and weather resistant
 -  tough
 -  easily machined
 -  very abrasion resistant
 -  resistant to many oils, greases, diesels and petrol
 -  not electrically insulating
 -  increased surface hardness
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Preferred Fields

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

Diverse machine parts, friction bearings, friction strips, gears, castors, chains, wheels, wiper blades, bumpers and shock absorbers, pulleys

Properties

Material Data Sheet

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Mechanical	dry / moist		standard
Tensile strength at yield	75	MPa	DIN EN ISO 527
Elongation at break	> 25	%	DIN EN ISO 527
Modulus of elasticity in tension	2700	MPa	
Hardness	107 / 85		ISO 2039/1 (Kugeldruck-Härte, 358N)
Impact strength 23° C (Charpy)	n.b.	KJ/m ²	DIN EN ISO 179 (Charpy)
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	0,32-0,37		

Wear 0,16 $\mu\text{m/km}$
 $p = 0,05 \text{ N/mm}^2 v = 0,6 \text{ m/s}$
on steel, hardened and ground

Material Data Sheet

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Thermal	dry / moist		standard
Glass transition temperature	40	$^{\circ}\text{C}$	DIN 53 765
Heat distortion temperature HDT, Method A	100	$^{\circ}\text{C}$	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	195	$^{\circ}\text{C}$	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	160	$^{\circ}\text{C}$	
long term	100	$^{\circ}\text{C}$	
Thermal conductivity (23 $^{\circ}\text{C}$)	0,23	$\text{W}/(\text{K}\cdot\text{m})$	
Specific heat (23 $^{\circ}\text{C}$)	1,7	$\text{J/g}\cdot\text{K}$	
Coefficient of thermal expansion (23-55 $^{\circ}\text{C}$)	18	$10^{-5}/\text{K}$	DIN 53 752

Material Data Sheet

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Electrical	dry / moist		standard
Specific volume resistance	$6 \cdot 10^{13}$	$\Omega \cdot \text{cm}$	DIN IEC 60093
Surface resistance	$3 \cdot 10^{13}$	Ω	DIN IEC 60093

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Miscellaneous	dry / moist		standard
Density	1,14	g/cm^3	DIN 53 479
Moisture absorption (23 $^{\circ}\text{C}/50\text{RH}$)	3	%	DIN EN ISO 62
Water absorption to equilibrium	8-9	%	DIN EN ISO 62
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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