










Material Data Sheet











PA66 natural

Chemical Designation : Polyamide 66
 DIN-Abbreviation: PA 66
 Colours, fillers: opaque

Main features

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

-  mechanical engineering
 -  transport and conveyor technology
 -  packaging and paper processing machinery
 -  drinks dispensing machinery
 -  electrical engineering
 -  automotive engineering
 -  textile machinery
 -  printing machinery
 -  domestic appliance
 -  precision engineering
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Applications

Diverse machine parts, friction bearings, friction strips, gears, castors, wiper blades, pulleys, chain wheels

Properties

Material Data Sheet	PA66 natural		
Mechanical	dry / moist		standard
Tensile strength at yield	80 / 60	MPa	DIN EN ISO 527
Elongation at yield	4	%	DIN EN ISO 527
Elongation at break	40 / 150	%	DIN 53 455
Modulus of elasticity in tension	3100 / 2000	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test	2830	MPa	DIN EN ISO 178
Hardness	170 / 100		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	55	MPa	
Time yield limit	8	MPa	

for 1% elongation after 1000 h

Co-efficient of friction 0,35-0,42

p = 0,05 N/mm²v=0,6 m/s
on steel, hardened and ground

Wear 0,9 μm/km

p = 0,05 N/mm²v=0,6 m/s
on steel, hardened and ground

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Thermal	dry / moist		standard
Crystalline melting point	260	°C	DIN 53 765
Glass transition temperature	72 / 5	°C	DIN 53 765
Heat distortion temperature HDT, Method A	100	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	>200	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	170	°C	
long term	100	°C	
Thermal conductivity (23° C)	0,23	W/(K·m)	
Specific heat (23° C)	1,7	J/g.K	
Coefficient of thermal expansion (23-55°C)	8	10 ⁻⁵ 1/K	DIN 53 752

Material Data Sheet

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Electrical	dry / moist		standard
Dielectric constant (10 ⁶ Hz)	3,6-5		DIN 53 483, IEC-250
Dielectric loss factor (10 ⁶ Hz)	0,026-0,200		DIN 53 483, IEC-250
Specific volume resistance	10 ¹²	Ω*cm	DIN IEC 60093
Surface resistance	10 ¹⁰	Ω	DIN IEC 60093
Dielectric strength	28 / 30	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking	CTI 600		DIN 53 480, VDE 0303 Teil 1

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Miscellaneous	dry / moist		standard
Density	1,14	g/cm ³	DIN 53 479
Moisture absorption (23°C/50RH)	2,8	%	DIN EN ISO 62
Water absorption to equilibrium	8,5	%	DIN EN ISO 62
Flammability acc. to UL standard 94	V2 (3,0mm)		
Resistance to hot water, washing soda:	(+)		
Resistance to weathering	-		

(1) Testing of semi-finished products

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