ENSINGER
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Material Data Sheet, November 2007

TECAMID 66

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

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

Applications

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

Properties

Mechanical	dry / moist		standard
Tensile strength at yield	80 / 60	MPa	DIN EN ISO 527
Elongation at yield	4	%	DIN EN ISO 527
Tensile strength at break		MPa	
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/m²	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load	55	MPa	
Time yield limit for 1% elongation after 1000 h	8	MPa	
Co−efficient of friction p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground	0,35−0,42		
Wear p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground	0,9	µm/km	

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

Properties

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 CTI 600		DIN 53 480, VDE 0303 Teil 1

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)		

(1) Testing of semi−finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.