ENSINGER
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Material Data Sheet, October 2005

TECAST T

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

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

Applications

Properties

Mechanical	**dry / moist**		**standard**
Tensile strength at yield	85 / 60	MPa	DIN EN ISO 527
Elongation at yield		%	
Tensile strength at break		MPa	
Elongation at break	3 / 50	%	DIN EN ISO 527

Modulus of elasticity in tension	3300 / 1700	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test		MPa	
Hardness	90−160		DIN 53 456 (Kugeldruckhärte)
Impact strength 23º C (Charpy)	n.b.	KJ/m²	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/mm²v=0,6 m/s on steel, hardened and ground	0,4		
Wear p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground		µm/km	

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	180	°C	
long term	100	°C	
Thermal conductivity (23º C)	0,24	W/(K·m)	
Specific heat (23º C)	1,7	J/g.K	
Coefficient of thermal expansion (23−55ºC)	6	10^{-5}1/K	DIN 53 752

Properties

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*1012	Ω	DIN IEC 60093
Dielectric strength	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

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		

(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.