

## TECAST TM

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Chemical Designation:	Polyamide 6 (cast)
DIN Abbreviation:	PA6 G
Colour, Filler:	Black Molybdenum disulphide MoS <sub>2</sub>

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TECAST TM is a tough hard semi-crystalline cast nylon with good machinability, higher crystallinity and weathering resistance.

- Main characteristics:
- Very good machinability
  - Tough and hard
  - UV and weathering resistant
  - Good sliding properties even in dry running conditions
  - Resistant to many oils, greases, diesel, petrol.
  - Not electrically insulating
  - Increased surface hardness

Preferred fields: Mechanical engineering, automotive engineering, transport and conveyor technology, gears, couplings and engine construction, textile, packaging and paper processing machinery, machine parts, agricultural machinery, printing machinery

- Applications:
- Diverse machine parts
  - Slide rails
  - Castors
  - Pulleys
  - Sealing rings
  - Friction bearings
  - Gears
  - Wiper blades
  - Chain wheels
  - Piston rings

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# TECAST TM

The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.

Properties	Unit	Test method DIN EN ISO / ASTM	
<b>Mechanical</b>			
Density	g/cm <sup>3</sup>	527 / D 792	1.15
Tensile strength at yield	MPa	527 / D 638	75
Tensile strength at break	MPa	527 / D 638	
Elongation at break	%	527 / D 638	40 / 60*
Modulus of elasticity in tension	MPa	527 / D 638	2800
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 / 1	145
Impact strength	kJ/m <sup>2</sup>	179 / D 256	
Creep rupture strength after 1000 hrs with static load	MPa		
Time yield limit for 1% elongation after 1000 hrs.	MPa		
Coefficient of friction against hardened and ground steel p = 0,05 N/mm <sup>2</sup> , v = 0,6 m/s	–		
Wear conditions as above	µm/km		
<b>Thermal</b>			
Crystalline melting point	°C	DIN 53 736	210
Glass transition temperature	°C	DIN 53 736	40 / 5*
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	

Properties	Unit	Test method DIN EN ISO / ASTM	
<b>Thermal</b>			
Max. service temperature short term long term	°C °C		170 100
Coefficient of thermal conductivity	W/(m · K)		
Specific heat	J/(g · K)		
Coefficient of thermal expansion	10 <sup>-5</sup> /K	DIN 53 483 / D 696	9.5
<b>Electrical</b>			
Dielectric constant at 10 <sup>5</sup> Hz		DIN 53 483	
Dielectric loss factor at 10 <sup>5</sup> Hz		DIN 53 483	
Specific volume resistance	Ω · cm	DIN 60093	
Surface resistance	Ω	DIN 60093	
Dielectric strength 1 mm	kV/mm	ASTM 149	
Tracking resistance		53 480	
<b>Miscellaneous</b>			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	2.5
Water absorption at saturation at 23 °C	%	62	6
Resistance to hot water, washing soda			limited resistance
Flammability according to UL standard 94			HB
Resistance to weathering			resistant

\* after storage in a standard 23/50 atmosphere (DIN 50 014) to equilibrium

ENSINGER: Production and stock programme

- Semi-finished product, finished parts, injection moulded parts and profiles in more than 500 materials and modifications.
- Engineering plastics: PA extruded or cast, POM, PC, PET, PBT, PPE, PP, PE
- High temperature plastics: PI, TPI, PEEK, PPS, PES, PPSU, PEI, PSU, PVDF, PCTFE, PTFE
- Stock length: Standard 3 metres. Cast rod and sheet 2 mts. Tube up to 3,5 mts. PE, PP, PVC, and PTFE 2 mts
- Pressed/sintered semi-finished product: PI, PEEK, PPS, PTFE/PI and modifications, as well as PCTFE in special sizes ie, large discs, tubes and rings with diameters up to about 1400 mm
- Material modifications: eg. glass, carbon and aramid fibre, talc, MoS<sub>2</sub>, graphite, PTFE, PE, silicone oil, internal lubrication