TECASON P MT

Chemical Designation:	Polyphenylenesulphone
DIN Abbreviation:	PPSU
Colour, Filler:	Black, blue, ivory, grey, red, yellow, blue, green

TECASON P black is an amorphous engineering plastic with higher toughness and good thermal mechanical strength for highly demanding applications.

Main characteristics:

- Tough
- Good thermal mechanical strength
- Good chemical and hydrolysis resistance even to superheated steam (sterilisation)
- Flame retardant UL 94 V-0
- High hardness and rigidity
- Dimensionally stable
- Suitable for food contact
- High heat deflection temperature
- Good weldability
- Very resistant to gamma radiation

Preferred fields: Medical technology, vacuum technology, chemical engineering, pump and instrumentation manufacture, precision engineering, food technology, laboratory equipment, electrical engineering.

Applications:

- Surgical Instruments
- Instrument handles
- Seals
- Sensor housings
- Sterilisation tanks
- Appliances
- Valve bodies
- Implant trial parts

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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	
Mechanical			
Density	g/cm³	527 / D 792	1.29
Tensile strength at yield	MPa	527 / D 638	70
Tensile strength at break	MPa	527 / D 638	
Elongation at break	%	527 / D 638	>50
Modulus of elasticity in tension	MPa	527 / D 638	2350
Modulus of elasticity in flexure	MPa	178 / D 790	2600
Ball indentation hardness	MPa	2039 /1	31
Impact strength	kJ/m^2	179 / D 256	no br.
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/mm², v = 0,6 m/s	–		
Wear conditions as above	µm/km		
Thermal			
Crystalline melting point	°C	DIN 53 736	
Glass transition temperature	°C	DIN 53 736	220
Heat distortion temperature Method A Method B	 °C °C	 R 75 R 75	 207 214

Properties	Unit	Test method DIN EN 1S0 / ASTM	
Thermal			
Max. service temperature short term long term	 °C °C		 190 170
Coefficient of thermal conductivity	W/(m · K)		0.35
Specific heat	J/(g · K)		
Coefficient of thermal expansion	10^{-5}/K	DIN 53 483 / D 696	5.6
Electrical			
Dielectric constant at 10^5 Hz		DIN 53 483	3.45
Dielectric loss factor at 10^5 Hz		DIN 53 483	
Specific volume resistance	Ω · cm	DIN 60093	10^{15}
Surface resistance	Ω	DIN 60093	10^{15}
Dielectric strength 1 mm	kV/mm	ASTM 149	15
Tracking resistance		53 480	
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	0.37
Water absorption at saturation at 23 °C	%	62	1.1
Resistance to hot water, washing soda			resistant
Flammability according to UL standard 94			V0
Resistance to weathering			Black resistant

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 i.e. large discs, tubes and rings with diameters up to about 1400 mm
- Material modifications: eg glass, carbon and aramid fibre, talc, MoS_2, graphite, PTFE, PE, silicone oil, internal lubrication