

## TECASON P MT black - Stock Shapes

### Chemical Designation

PPSU (Polyphenylsulfone)

### Colour

black opaque

### Density

1.31 g/cm<sup>3</sup>

### Main features

- high thermal and mechanical capacity
- good heat deflection temperature
- hydrolysis and superheated steam resistant
- good impact strength
- high stiffness
- high strength
- good chemical resistance
- high gamma radiation resistance

### Target Industries

- medical technology
- chemical plant engineering
- electrical engineering
- precision engineering
- vacuum technology
- automotive industry
- food engineering

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	2300	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b
Tensile strength	50mm/min	81	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	81	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break	50mm/min	> 50	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	107	MPa	DIN EN ISO 178	n.b. = not broken
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
Compression strength	1% / 2% 5mm/min, 10 N	18 / 30	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2000	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5]	n.b.	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5]	13	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	
Ball indentation hardness		143	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		218	°C	DIN 53765	1) (1) Found in public sources.
Melting temperature		n.a.	°C	DIN 53765	2) (2) n.a. = not applicable
Service temperature	short term	190	°C		3) (3) Found in public sources.
Service temperature	long term	170	°C		Individual testing regarding application conditions is mandatory.
Thermal expansion (CLTE)	23-60°C, long.	6	10 <sup>-5</sup> *K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	6	10 <sup>-5</sup> *K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Specific heat		1.1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Surface resistance		> 10 <sup>12</sup>	Ω	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.1 / 0.2	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases		+			(2) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	2)

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