

TECASON P MT green - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPSU (Polyphenylsulfone)

Colour

green opaque

Density

1.31 g/cm³

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 technology
- electronics
- food technology
- automotive industry

Mechanical properties

parameter	value	unit	norm	comment
Tensile strength	50mm/min	81	MPa	DIN EN ISO 527-2
Modulus of elasticity (tensile test)	1mm/min	2300	MPa	DIN EN ISO 527-2 1)
Tensile strength at yield	50mm/min	81	MPa	DIN EN ISO 527-2
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2
Elongation at break (tensile test)	50mm/min	> 50	%	DIN EN ISO 527-2
Flexural strength	2mm/min, 10 N	107	MPa	DIN EN ISO 178 2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178
Compression strength	1% / 2% / 5% 5mm/min, 10 N	18/30/66	MPa	EN ISO 604 3)
Compression modulus	5mm/min, 10 N	2000	MPa	EN ISO 604 4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU 5)
Notched impact strength (Charpy)	max. 7,5J	13	kJ/m ²	DIN EN ISO 179-1eA
Shore hardness	D	85		DIN EN ISO 868

Thermal properties

parameter	value	unit	norm	comment
Glass transition temperature	218	°C	DIN EN ISO 11357	1)
Melting temperature	n.a.	°C	DIN EN ISO 11357	2)
Service temperature short term	190	°C		3)
Service temperature long term	170	°C		
Thermal expansion (CLTE)	23-60°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	23-100°C, long.	6	10 ⁻⁵ K ⁻¹	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 resistivity	10 ¹⁴	Ω	-	
volume resistivity	10 ¹⁴	Ω*cm	-	

Other properties

parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.1 / 0.2	%	DIN EN ISO 62 1)
Resistance to hot water/ bases	+	-	-	2)
Resistance to weathering	-	-	-	3)
Flammability (UL94)	listed (value at 0.79mm)	V0		DIN IEC 60695-11-10;

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.