

TECASON P MT red - Stock Shapes

Chemical Designation

PPSU (Polyphenylsulfone)

Colour

red opaque

Density

1.31 g/cm³

Main features

- biocompatible
- good heat deflection temperature
- high strength
- high stiffness
- resistance against high energy radiation
- good chemical resistance
- good weldable and bondable
- hydrolysis and superheated steam resistant

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)
Tensile strength	50mm/min	81	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	81	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2	
Elongation at break	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% 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. 7,5J	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	
Ball indentation hardness		143	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		218	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	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
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Specific volume resistance		10 ¹⁴	Ω*cm	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)
Resistance to hot water/ bases		+	-	-	2)
Resistance to weathering		-	-	-	3)
Flammability (UL94)	corresponding to	V0	-	DIN IEC 60695-11-10;	4)

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