TECASON P MT black - Stock Shapes

Chemical Designation
PPSU (Polyphenylsulfone)

Colour
black opaque

Density
1.31 g/cm^3

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 (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken (6) Specimen in 4mm thickness
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)	(1) Found in public sources. (2) n.a. = not applicable (3) Found in public sources. Individual testing regarding application conditions is mandatory.
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	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω	DIN IEC 60093	1)	(1) Specimen in 20mm thickness (2) Specimen in 1mm thickness
Specific volume resistance	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω*cm	DIN IEC 60093		
Dielectric strength	23°C, 50% r.h.	76	kV/mm	ISO 60243-1	2)	
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	125	V	DIN EN 60112		

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 (2) + good resistance (3) (+) limited resistance (4) 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 hot water/ bases		+		-	2)	
Resistance to weathering		(+)		-	3)	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)	

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