SUPPLY SERVICES

performance engineering products

Ensinger

TECASON S natural - Stock Shapes

Chemical Designation
PSU (Polysulfone)

Colour
amber transparent

Density
1.24 g/cm^3

Main features
- good heat deflection temperature
- high strength
- high stiffness
- high dimensional stability
- electrically insulating
- resistance against high energy radiation
- good weldable

Target Industries
- mechanical engineering
- vacuum technology
- electronics
- food technology
- medical technology
- automotive industry
- chemical technology

Mechanical properties	*parameter*	*value*	*unit*	*norm*		*comment*
Modulus of elasticity (tensile test)	1mm/min	2700	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. (6) Specimen in 4mm thickness
Tensile strength	50mm/min	89	MPa	DIN EN ISO 527-2		
Tensile strength at yield	50mm/min	89	MPa	DIN EN ISO 527-2		
Elongation at yield	50mm/min	5	%	DIN EN ISO 527-2		
Elongation at break	50mm/min	15	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	122	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	2600	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	15/28/75	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	2300	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	175	kJ/m^2	DIN EN ISO 179-1eU	5)	
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m^2	DIN EN ISO 179-1eA		
Ball indentation hardness		167	MPa	ISO 2039-1	6)	

Thermal properties	*parameter*	*value*	*unit*	*norm*		*comment*
Glass transition temperature		188	°C	DIN EN ISO 11357	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 EN ISO 11357	2)	
Service temperature	short term	180	°C		3)	
Service temperature	long term	160	°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		1.2	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.21	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)	0.06 / 0.1	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (2) + good resistance (3) - poor 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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