

Chemical Designation

PPSU (Polyphenylsulfone)

Colour

red opaque

Density

1.35 g/cm³

Fillers

barium sulfate

Main features

- x-ray opaque
- high thermal and mechanical capacity
- hydrolysis and superheated steam resistant
- good impact strength
- high stiffness
- high strength
- good chemical resistance
- high gamma radiation resistance

Target Industries

- medical technology
- mechanical engineering
- vacuum technology

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength	50mm/min	79	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	2400	MPa	DIN EN ISO 527-2	1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	79	MPa	DIN EN ISO 527-2	(3) For Charpy test: support span 64mm, norm specimen.
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	n.b. = not broken
Elongation at break (tensile test)	50mm/min	> 50	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	103	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178	
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	3)
Notched impact strength (Charpy)	max. 7,5J	12	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	85		DIN EN ISO 868	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		218	°C	DIN EN ISO 11357	1)
Service temperature	short term	190	°C		2)
Service temperature	long term	170	°C		Individual testing regarding application conditions is mandatory.
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
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)

