

TECATRON® GF40 - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPS (Polyphenylsulfide)

Colour

beige opaque

Density

1.64 g/cm³

Fillers

glass fibres

Main features

- good heat deflection temperature
- hydrolysis and superheated steam resistant
- high stiffness
- very good chemical resistance
- high dimensional stability
- high creep resistance
- inherent flame resistance

Target Industries

- chemical technology
- mechanical engineering
- oil and gas industry
- precision engineering

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	1,500,000 psi	ASTM D 638	
Tensile strength at break	@ 73 °F	13,000 psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	1.9 %	ASTM D 638	
Flexural strength	72 F	21,000 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	1,000,000 psi	ASTM D 790	
Compression strength	10% strain	22,000 psi	ASTM D 695	
Compression strength	1% Strain	4,000 psi	ASTM D 695	
Compression modulus		520,000 psi	ASTM D 695	

Thermal properties	condition	value	test method	comment
Melting temperature		540 °F	ASTM D 2133	(1) found in public source
Service temperature	Long Term	450 °F	-	1)
Service temperature	Intermittent	500 °F	-	
Thermal expansion (CLTE)	72 F - 140 F	2.2*10 ⁻⁵ in/in/°F	DIN EN ISO 11359-1;2	
Specific heat		0.282 BTU/lb-F°	ISO 22007-4:2008	
Thermal conductivity		1.74 BTU-in/hr-ft ² -°F	ISO 22007-4:2008	

Electrical properties	condition	value	test method	comment
surface resistivity		10 ¹⁵ Ω/square	ASTM D 257	1) (1) public source data
Volume resistivity		10 ¹³ Ω*cm	ASTM D 257	2) (2) public source data
Dielectric strength		508 V/mil	ASTM D 149	3) (3) public source data
Dissipation factor	@ 1MHz	0.0004	ASTM D 150	4) (4) public source data
Dissipation factor	@1KHz, 73 °F	0.0001	ASTM D 150	5) (5) public source data
Dielectric constant	@ 1MHz	4	ASTM D 150	6) (6) public source data

Other properties	condition	value	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.02 %	ASTM D 570	(1) not UL listed
Flammability (UL94)		V0	DIN IEC 60695-11-10;	1)

→ Resin specification:
ASTM D4067-11 PPS000G40A00000
Shapes specification:
NONE

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