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PPSF

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PPSF/PPSU (polyphenylsulfone) material has the greatest heat and chemical resistance of all FDM materials - ideal for aerospace, automotive and medical applications.

Users can also sterilize PPSF via steam autoclave, EtO sterilization, plasma sterilization, chemical sterilization and radiation. PPSF gives you the ability to manufacture Parts direct from digital files that are ideal for conceptual modeling, functional prototyping, manufacturing tools, and end-use-parts.



Mechanical Properties ¹	Test Method	English	Metric
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	8,000 psi	55 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	300,000 psi	2,068 MPa
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	3%	3%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	15,900 psi	110 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	320,000 psi	2,206 MPa
IZOD Impact, notched (Method A, 23°C)	ASTM D256	1.1 ft-lb/in	58.73 J/m
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	3.1 ft-lb/in	165.5 J/m

Thermal Properties ³	Test Method	English	Metric
Heat Deflection (HDT) @264 psi	ASTM D648	372°F	189°C
Glass Transition Temperature (Tg)	DMA (SSYS)	446°F	230°C
Coefficient of Thermal Expansion	ASTM D696	3.1 E -05 in/in/°F	5.5 E -05 mm/mm/°C
Melt Point	-----	Not Applicable ²	Not Applicable ²

Other ³	Test Method	Value
Specific Gravity	ASTM D792	1.28
Flame Classification	UL 94	VØ (0.126", 3.2 mm)
Rockwell Hardness	ASTM D785	M86
Dielectric Strength	IEC 60112	14.6 kV/mm
Dielectric Constant @60 Hz	IEC 60250	3.45

Environmental Resistance ⁴	24 hours @ 23°C (73°F)	24 hours @ 100°C (212°F)
Antifreeze (Prestone), 50%	Passed	Passed
Gasoline-Unleaded	Passed	Not tested
Motor Oil 10W-40	Passed	Passed
Power Steering Fluid	Passed	Passed
Transmission Fluid	Passed	Passed
Windshield Washer Fluid, 50%	Passed	Not tested

Layer Thickness Capability	Support Structure	Available Colors
0.013 inch (0.330 mm) ¹ 0.010 inch (0.254 mm)	BASS	■ Tan

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions.

Product specifications are subject to change without notice.

¹Build orientation is on side long edge. ²Due to amorphous nature, material does not display a melting point. ³Literature value unless otherwise noted. ⁴Test results based on Stress Crack Resistance (24-hour immersion @ 23°C and @ 100°C). ⁵Stratasys has not done any sterilization testing on PPSF.