STRATASYS®

Polyphenylsulfone

PPSF/PPSU (polyphenylsulfone) material has the greatest strength, heat and chemical resistance of all Stratasys materials - ideal for aerospace, automotive and medical applications. Stratasys FDM (Fused Deposition Modeling) systems manufacture parts using PPSF/PPSU material that are not only mechanically superior, but also dimensionally accurate, accurately predicting end-product performance. Users can also sterilize PPSF via steam autoclave, EtO sterilization, plasma sterilization, chemical sterilization and radiation[4]. PPSF/PPSU gives you the ability to manufacture Real Parts™ direct from digital files. Refer to the FDM System Material Availability spec sheet for system availability and color options.

Mechanical Properties[1]	Test Method	Imperial	Metric
Tensile Strength, Type 1, 0.125	ASTM D638	8,000 psi	55 MPa
Tensile Modulus, Type 1, 0.125	ASTM D638	300,000 psi	2,068 MPa
Tensile Elongation, Type 1, 0.125	ASTM D638	3%	3%
Flexural Strength	ASTM D790	15,900 psi	110 MPa
Flexural Modulus	ASTM D790	320,000 psi	2,206 MPa
IZOD Impact, notched	ASTM D256	1.1 ft-lb/in	58.73 J/m
IZOD Impact, unnotched	ASTM D256	3.1 ft-lb/in	165.5 J/m

Thermal Properties	Test Method	Imperial	Metric
Heat Deflection Temperature @ 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*10^-5 in/in F	5.5*10^-5 mm/mm/C
Melt Point	- - - - - - - - -	Not Applicable[2]	Not Applicable[2]

Other	Test Method	Value
Specific Gravity	ASTM D792	1.28
Flame Classification	UL 94	V 0, 3.2 mm
Rockwell Hardness	ASTM D785	M86
Dielectric Strength kV/mm	IEC 60112	14.6
Dielectric Constant 60Hz	IEC 60250	3.45

Environmental Resistance[3]	24 hr. @ 23°c	24 hr. @ 100°c
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

The information presented includes 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. Tested parts were built on Titan Ti, 0.010 inch slice (0.245mm).

[1] Build orientation is on side edge. [2] Due to amorphous nature, material does not exhibit a melting point. [3] Test results based on Stress Crack Resistance (24 Hr. Immersion @ 23° C and @ 100°C). [4] Stratasys has not done any sterilization testing on PPSF.

For more information about Stratasys systems and materials, contact your representative at +1 888.480.3548 or visit www.stratasys.com

Stratasys Inc.
7665 Commerce Way
Eden Prairie, MN 55344-2020
+1 888 480 3548 (US Toll Free)
+1 952 937 3000 (Main)
+1 952 937 0070 (Fax)
www.stratasys.com
info@stratasys.com

Stratasys GmbH
Weismüllerstrasse 27
60314 Frankfurt am Main
Germany
+49 69 420 9943 0 (Tel)
+49 69 420 9943 33 (Fax)
europe@stratasys.com

Printed in the USA. MS-PPSF 02/07

STRATASYS®
Real Parts