

PPSF



PPSF/PPSU (polyphenylsulfone) material has the greatest heat and chemical resistance of all Fortus® materials - ideal for aerospace, automotive and medical applications. PPSF parts manufactured on Fortus 3D Printers are not only mechanically superior, but also dimensionally accurate, to better predict end-product performance. 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 production parts.

Mechanical Properties ¹	Test Method	Value
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	55 MPa (8,000 psi)
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	2,100 MPa (300,000 psi)
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	3% (3%)
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	110 MPa (15,900 psi)
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	2,200 MPa (320,000 psi)
IZOD Impact, notched (Method A, 23 °C)	ASTM D256	58.7 J/m (1.1 ft-lb/in)
IZOD Impact, un-notched (Method A, 23 °C)	ASTM D256	165.5 J/m (3.1 ft-lb/in)

Thermal Properties ²	Test Method	Metric
Heat Deflection (HDT) @ 264 psi	ASTM D648	189 °C (372 °F)
Glass Transition Temperature (Tg)	DMA (SSYS)	230 °C (446 °F)
Coefficient of Thermal Expansion	ASTM D696	5.5x10-05 mm/mm/°C (3.1x10-05 in/in/°F)
Melting Point	-----	Not Applicable ² (Not Applicable ²)

Electrical Properties ³	Test Method	Value Range
Volume Resistivity	ASTM D257	1.5x10 ¹⁴ - 5.0x10 ¹³ ohm-cm
Dielectric Constant	ASTM D150-98	3.2 - 3.0
Dissipation Factor	ASTM D150-98	.0015 - .0011
Dielectric Strength	ASTM D149-09, Method A	290 - 80 V/mil

Environmental Resistance ⁵	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

PPSF



Other ³	Test Method	Value	
Specific Gravity	ASTM D792	1.28	
Rockwell Hardness	ASTM D785	M86	
System Availability	Layer Thickness Capability	Support Structure	Available Colors
Fortus 900mc™	0.013 inch (0.330 mm) 0.010 inch (0.254 mm) ⁶	Breakaway	 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. Tested parts were built on

Fortus 400mc™ @ 0.010" (0.254 mm) slice. Product specifications are subject to change without notice.

The performance characteristics of these materials may vary according to application, operating conditions, or end use. Each user is responsible for determining that the Stratasys material is safe, lawful, and technically suitable for the intended application, as well as for identifying the proper disposal (or recycling) method consistent with applicable environmental laws and regulations. Stratasys makes no warranties of any kind, express or implied, including, but not limited to, the warranties of merchantability, fitness for a particular use, or warranty against patent infringement.

*Stratasys has not done any sterilization testing on PPSF.

¹Build orientation is on side long edge.

²Due to amorphous nature, material does not display a melting point.

³Literature value unless otherwise noted.

⁴All Electrical Property values were generated from the average of test plaques built with default part density (solid). Test plaques were 4.0 x 4.0 x 0.1 inches (102 x 102 x 2.5 mm) and were built both in the flat and vertical orientation. The range of values is mostly the result of the difference in properties of test plaques built in the flat vs. vertical orientation.

⁵Test results based on Stress Crack Resistance (24-hour immersion @ 23 °C and @ 100 °C). 60.013 inch (0.330 mm) layer thickness not available on Fortus 900mc.

Stratasys Headquarters

7665 Commerce Way,
Eden Prairie, MN 55344
+1 800 801 6491 (US Toll Free)
+1 952 937-3000 (Intl)
+1 952 937-0070 (Fax)

stratasys.com
ISO 9001:2008 Certified

1 Holtzman St., Science Park,
PO Box 2496
Rehovot 76124, Israel
+972 74 745 4000
+972 74 745 5000 (Fax)

