Stratasys PPSF

Polyphenylsulfone

Stratasys

Message:

Production-Grade Thermoplastic for Fortus 3D Production Systems
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 Production Systems 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 Real Parts™ direct from digital files that are ideal for conceptual modeling, functional prototyping, manufacturing tools, and end-use-parts.

General Information			
Features	Autoclave Sterilizable		
	Durable		
	Ethylene Oxide Sterilizable		
	Good Chemical Resistance		
	Good Sterilizability		
	High Heat Resistance		
	High Impact Resistance		
Uses	Aerospace Applications		
	Automotive Applications		
	Engineering Parts		
	Medical/Healthcare Applications		
	Modeling Material		
	Prototyping		
UL File Number	E345258		
Appearance	Tan		
Processing Method	3D Printing, Fused Filament Fabrication (FFF)		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.28	g/cm^3	ASTM D792
ESCR			
Antifreeze (Prestone), 50%, 24 hr : 23°C	Passed		
Antifreeze (Prestone), 50%, 24 hr : 100°C	Passed		
Gasoline-Unleaded, 24 hr : 23°C	Passed		
Motor Oil 10W-40, 24 hr : 23°C	Passed		
Motor Oil 10W-40, 24 hr : 100°C	Passed		
Power Steering Fluid, 24 hr : 23°C	Passed		
Power Steering Fluid, 24 hr : 100°C	Passed		
Transmission Fluid, 24 hr : 23°C	Passed		
Transmission Fluid, 24 hr : 100°C	Passed		

Windshield Washer Fluid, 50%, 24 hr : 23°C	Passed		
Thickness - Layer Capability	254.0 to 330.2	µm	
Volume Resistance [1]	5.0E+13 to 1.5E+14	ohms	ASTM D257
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	86		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2] (3.18 mm)	2070	MPa	ASTM D638
Tensile Strength [3] (3.18 mm)	55.2	MPa	ASTM D638
Tensile Elongation [4] (Break, 3.18 mm)	3.0	%	ASTM D638
Flexural Modulus [5]	2210	MPa	ASTM D790
Flexural Strength [6]	110	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	59	J/m	ASTM D256A
Unnotched Izod Impact (23°C)	170	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	189	°C	ASTM D648
Glass Transition Temperature	230	°C	DMA
CLTE - Flow	5.6E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength	3.1 to 11	kV/mm	ASTM D149
Dielectric Constant [7]	3.00 to 3.20		ASTM D150
Dissipation Factor [8]	1.1E-3 to 1.5E-3		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	V-0		UL 94
NOTE			
1.	All 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.		
2.	Type I, 5.1 mm/min		
3.	Type I, 5.1 mm/min		
4.	Type I, 5.1 mm/min		
5.	Method I (3 point load), 1.3 mm/min		
6.	Method I (3 point load), 1.3 mm/min		

7.	All 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.
8.	All 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.

Recommended distributors for this material

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