

Electrafil® PPS/F 1501 3DP

Techmer Polymer Modifiers - Polyphenylene Sulfide

Product Description

Electrafil® PPS/F 1501 3DP is a specially formulated and compounded thermoplastic material designed for the additive manufacturing of tooling for use in composites fabrication by autoclave curing. This product has been optimized for printing on pellet fed large scale additive manufacturing machines and for withstanding repeated autoclave cycles at temperatures in excess of 350°F.

General

Material Status	• Commercial: Active
Availability	• North America
Filler / Reinforcement	• Carbon Fiber
Uses	• Additive Manufacturing (3D Printing)

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.50		ASTM D792

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	17000	psi	ASTM D638
Tensile Elongation (Break)	0.50	%	ASTM D638
Flexural Modulus	5.80E+6	psi	ASTM D790
Flexural Strength	29000	psi	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (0.125 in)	0.80	ft-lb/in	ASTM D256

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	550	°F	ASTM D648

Additional Information	Nominal Value	Unit	Test Method
Recommended Print Bed	PEI sheet, heated aluminum bed with temperature stable adhesive		
Recommended Print Bed Temperature	248 to 320	°F	

Processing Information

Extrusion	Nominal Value	Unit
Drying Temperature	240	°F
Drying Time	2.0 to 4.0	hr
Cylinder Zone 1 Temp.	560 to 590	°F
Cylinder Zone 2 Temp.	600 to 620	°F
Cylinder Zone 3 Temp.	620 to 650	°F
Cylinder Zone 4 Temp.	630 to 660	°F
Melt Temperature	630 to 680	°F
Die Temperature	630 to 670	°F

Extrusion Notes

If drying for longer than 6 hours, recommend reducing the temperature to 160°F in a dessiccant dryer to avoid degradaton of the material.

