

Electrafil® PPS/F 1501 3DP

 Techmer Polymer Modifiers - *Polyphenylene Sulfide*
General Information
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.

