



# Therma-Tech™ SF-4500 TC

## Polyphenylene Sulfide

### Key Characteristics

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Features	• Electrically Conductive • Thermally Conductive		
Forms	• Pellets		

### Technical Properties <sup>1</sup>

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Specific Gravity	1.67	1.67	ASTM D792
Molding Shrinkage - Flow	0.0010 in/in	0.10 %	ASTM D955
Water Absorption (24 hr)	0.040 %	0.040 %	ASTM D570
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus <sup>2</sup>	4.49E+6 psi	31000 MPa	ASTM D638
Tensile Strength <sup>2</sup> (Break)	14500 psi	100 MPa	ASTM D638
Tensile Elongation <sup>2</sup> (Break)	2.0 %	2.0 %	ASTM D638
Flexural Modulus	2.90E+6 psi	20000 MPa	ASTM D790
Flexural Strength	43000 psi	296 MPa	ASTM D790
Compressive Strength	28000 psi	193 MPa	ASTM D695
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact 73°F (23°C), 0.125 in (3.18 mm), Injection Molded	0.317 ft-lb/in	16.9 J/m	ASTM D256A
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Rockwell Hardness (R-Scale)	123	123	ASTM D785
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Deflection Temperature Under Load 66 psi (0.45 MPa), Annealed, 0.125 in (3.18 mm)	570 °F	299 °C	ASTM D648
Deflection Temperature Under Load 264 psi (1.8 MPa), Annealed, 0.125 in (3.18 mm)	505 °F	263 °C	ASTM D648
CLTE - Flow	6.0E-6 in/in/°F	0.000011 cm/cm/°C	ASTM D696
Thermal Conductivity	76 Btu·in/hr/ft <sup>2</sup> /°F	11 W/m/K	ASTM C177
Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Surface Resistivity	80 to 1.0E+2 ohms	80 to 1.0E+2 ohms	ASTM D257
Volume Resistivity	80 to 1.0E+2 ohm·cm	80 to 1.0E+2 ohm·cm	ASTM D257
Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating - UL	V-0	V-0	UL 94

### Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	300 °F	149 °C
Drying Time	6.0 hr	6.0 hr
Processing (Melt) Temp	580 to 630 °F	304 to 332 °C
Mold Temperature	250 to 300 °F	121 to 149 °C

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**Notes**

<sup>1</sup> Typical values are not to be construed as specifications.

<sup>2</sup> Type I, 0.20 in/min (5.1 mm/min)

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