Therma-Tech™ SF-6000 TC

Polyphenylene Sulfide

Key Characteristics

Product Description			
Therma-Tech™ Thermal Management Compounds have been engineered to combine the heat transfer and cooling capabilities of metals with the design freedom, weight reduction and cost advantages of thermoplastics. These materials provide the benefits of proprietary conductive additive technologies and the performance of select engineering thermoplastic resins. Therma-Tech compounds have been shown to improve thermal conductivity up to 100-times that of conventional plastics and can be used in a wide range of thermal management applications.			
General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Features	• Electrically Conductive	• Thermally Conductive	
Uses	• Automotive Applications • Consumer Applications	• Electrical/Electronic Applications • Housings	• Industrial Applications
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Specific Gravity	1.82	1.82	ASTM D792
Molding Shrinkage - Flow	0.0040 to 0.0050 in/in	0.40 to 0.50 %	ASTM D955
Water Absorption (24 hr, 0.125 in (3.18 mm))	0.020 %	0.020 %	ASTM D570
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus [2]	3.80E+6 psi	26200 MPa	ASTM D638
Tensile Strength [2] (Yield)	14500 psi	100.0 MPa	ASTM D638
Tensile Elongation [2] (Break)	0.20 %	0.20 %	ASTM D638
Flexural Modulus	3.50E+6 psi	24100 MPa	ASTM D790
Flexural Strength	20300 psi	140 MPa	ASTM D790
Impact	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Notched Izod Impact			ASTM D256A
73°F (23°C), 0.250 in (6.35 mm), Injection Molded	0.300 ft·lb/in	16.0 J/m	
Thermal	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.250 in (6.35 mm)	560 °F	293 °C	
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed, 0.250 in (6.35 mm)	540 °F	282 °C	
Thermal Conductivity	73 Btu·in/hr/ft²/°F	10 W/m/K	ASTM C177
Electrical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Surface Resistivity	1.0 to 10 ohms	1.0 to 10 ohms	ASTM D257
Volume Resistivity	1.0 to 10 ohm·cm	1.0 to 10 ohm·cm	ASTM D257

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Processing (Melt) Temp	600 to 625 °F	316 to 329 °C
Mold Temperature	250 to 300 °F	121 to 149 °C

Notes

[1] Typical values are not to be construed as specifications.

[2] Type I, 0.20 in/min (5.1 mm/min)

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