



Therma-Tech™ TT9200-5003 EC Grey

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 • Latin America	• North America
Filler / Reinforcement	• Glass Fiber		
Features	• Electrically Conductive	• Halogen Free	• Thermally Conductive
Uses	• Automotive Applications • Automotive Under the Hood*	• Consumer Applications • Electrical/Electronic Applications	• Housings • Industrial Applications
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.78	1.78	ISO 1183
Molding Shrinkage - Flow (Injection Molded)	2.0E-3 to 4.0E-3 in/in	0.20 to 0.40 %	ISO 294-4
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus ²	2.54E+6 psi	17500 MPa	ISO 527
Tensile Stress (Break)	8410 psi	58.0 MPa	ISO 527-2/1/50
Tensile Elongation ³ (Break)	0.30 to 0.50 %	0.30 to 0.50 %	ISO 527
Flexural Modulus ⁴ (Injection Molded)	1.96E+6 psi	13500 MPa	ISO 178
Flexural Strength ⁴ (Injection Molded)	10900 psi	75.0 MPa	ISO 178
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	1.1 ft·lb/in ²	2.3 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength 73°F (23°C)	1.9 ft·lb/in ²	3.9 kJ/m ²	ISO 179
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Heat Deflection Temperature 264 psi (1.8 MPa), Annealed	500 °F	260 °C	ISO 75-2/A
Thermal Conductivity			
73°F (23°C) ⁵	15 to 18 Btu·in/hr/ft ² /°F	2.2 to 2.6 W/m/K	Internal Method
73°F (23°C) ⁶	24 to 28 Btu·in/hr/ft ² /°F	3.5 to 4.0 W/m/K	ASTM E1461
73°F (23°C) ⁷	110 to 120 Btu·in/hr/ft ² /°F	16 to 18 W/m/K	ASTM E1461
Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Surface Resistivity	< 1.0E+4 ohms	< 1.0E+4 ohms	IEC 60093

Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating			UL 94
0.06 in (1.5 mm)	5VA	5VA	
0.12 in (3.0 mm)	5VA	5VA	
Glow Wire Flammability Index			IEC 60695-2-12
0.031 in (0.8 mm)	1760 °F	960 °C	
0.06 in (1.6 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	> 1760 °F	> 960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.12 in (3.0 mm)	> 1760 °F	> 960 °C	

Additional Information

For this Product formed into certain light housings, the customer benefits from a license under a DSM patent family. Please inquire.

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Processing (Melt) Temp	590 to 644 °F	310 to 340 °C
Mold Temperature	284 to 338 °F	140 to 170 °C

Notes

¹ Typical values are not to be construed as specifications.

² Type I, 0.039 in/min (1.0 mm/min)

³ Type I, 2.0 in/min (50 mm/min)

⁴ 0.39 in/min (10 mm/min)

⁵ Through Plane with Modified transient Plane Source technique (apparatus C-Therm TCi™)

⁶ Through-Plane

⁷ In-Plane



Beyond Polymers.

Better Business Solutions. SM