



# Therma-Tech™ TT9200-5010 EC Anthracite

## 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	• 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 <sup>1</sup>

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Specific Gravity	1.79	1.79	ISO 1183
Molding Shrinkage - Flow (Injection Molded)	1.0E-3 to 3.0E-3 in/in	0.10 to 0.30 %	ISO 294-4
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus <sup>2</sup>	2.54E+6 psi	17500 MPa	ISO 527
Tensile Stress (Break)	9280 psi	64.0 MPa	ISO 527-2/1/50
Tensile Elongation <sup>3</sup> (Break)	0.30 to 0.50 %	0.30 to 0.50 %	ISO 527
Flexural Modulus <sup>4</sup> (Injection Molded)	2.32E+6 psi	16000 MPa	ISO 178
Flexural Strength <sup>4</sup> (Injection Molded)	13100 psi	90.0 MPa	ISO 178
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	1.3 ft·lb/in <sup>2</sup>	2.8 kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength 73°F (23°C)	3.0 ft·lb/in <sup>2</sup>	6.3 kJ/m <sup>2</sup>	ISO 179
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	464 °F	240 °C	ISO 75-2/A
Thermal Conductivity <sup>5</sup>	14 to 17 Btu·in/hr/ft <sup>2</sup> /°F	2.0 to 2.4 W/m/K	
Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Surface Resistivity	< 1.0E+4 ohms	< 1.0E+4 ohms	IEC 60093

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Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating			UL 94
0.031 in (0.8 mm)	V-0	V-0	
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
0.06 in (1.6 mm)	> 1760 °F	> 960 °C	
0.12 in (3.0 mm)	> 1760 °F	> 960 °C	

**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**

- <sup>1</sup> Typical values are not to be construed as specifications.
- <sup>2</sup> Type I, 0.039 in/min (1.0 mm/min)
- <sup>3</sup> Type I, 2.0 in/min (50 mm/min)
- <sup>4</sup> 0.39 in/min (10 mm/min)
- <sup>5</sup> Through Plane with Modified Transient Plane Source technique, C-Therm TCi™

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