



Therma-Tech™ X TT6000-8711 EI NHFR WHITE

Polyamide 6

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	• Asia Pacific
Features	• Electrically Insulating • Halogen Free • Thermally Conductive
Uses	• Automotive Applications • Consumer Applications • Housings • Automotive Under the Hood • Electrical/Electronic Applications • Industrial Applications
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.80	1.80	ASTM D792
Molding Shrinkage - Flow	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	ASTM D955
Molding Shrinkage - Across Flow	6.0E-3 to 8.0E-3 in/in	0.60 to 0.80 %	ASTM D955
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus ² (0.126 in (3.20 mm))	2.00E+6 psi	13800 MPa	ASTM D638
Tensile Strength ² (0.126 in (3.20 mm))	11000 psi	75.8 MPa	ASTM D638
Tensile Elongation ²			ASTM D638
Break, 0.126 in (3.20 mm)	1.0 %	1.0 %	
Flexural Modulus (0.126 in (3.20 mm))	1.50E+6 psi	10300 MPa	ASTM D790
Flexural Strength (0.126 in (3.20 mm))	19000 psi	131 MPa	ASTM D790
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact (0.126 in (3.20 mm))	0.60 ft-lb/in	32 J/m	ASTM D256
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed	419 °F	215 °C	ASTM D648
Deflection Temperature Under Load 264 psi (1.8 MPa), Unannealed	374 °F	190 °C	ASTM D648
Thermal Conductivity			ASTM E1461
-- ³	7.0 to 10 Btu·in/hr/ft ² /°F	1.0 to 1.4 W/m/K	
-- ⁴	7.0 to 14 Btu·in/hr/ft ² /°F	1.0 to 2.0 W/m/K	
Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Surface Resistivity	1.0E+12 ohms	1.0E+12 ohms	ASTM D257
Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating (0.031 in (0.8 mm))	V-0	V-0	Internal Method

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	176 to 194 °F	80 to 90 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Processing (Melt) Temp	428 to 536 °F	220 to 280 °C
Mold Temperature	149 to 185 °F	65 to 85 °C

Notes

¹ Typical values are not to be construed as specifications.

² 0.20 in/min (5.0 mm/min)

³ Through-Plane

⁴ In-Plane

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