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 • Automotive Under the Hood	• Consumer Applications • Electrical/Electronic Applications	• Housings • 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			ASTM D648
66 psi (0.45 MPa), Unannealed	419 °F	215 °C	
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed	374 °F	190 °C	
Thermal Conductivity			ASTM E1461
-- [3]	7.0 to 10 Btu·in/hr/ft²/°F	1.0 to 1.4 W/m/K	
-- [4]	7.0 to 14 Btu·in/hr/ft²/°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

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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