Trilliant™ HC HC6200-5002 XR Grey

Polyamide 12

Key Characteristics

Product Description
The Trilliant® specialty compounds offer a complete system of specialty engineered materials, certified processes, services and technical support that enable healthcare OEM's to get to market ahead of competition. When specified, Trilliant® compound may incorporate agency rated materials that meet USP Class IV, FDA or ISO 10993 testing requirements. This Trilliant® grade is a high density specialty compound featuring a sustainable material solution for radiation shielding and weighting & balancing applications. The composite material offers a high performance thermoplastic-based alternative to lead. This compound has densities similar to traditional metals and provides greater flexibility in design and processing.

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• High Specific Gravity	• Medium Impact Resistance	• Non-Toxic
Uses	• Housings • Medical/Healthcare Applications	• Radiation Shielding • Weighting & Balancing	
Appearance	• Grey		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	8.00 g/cm³	8.00 g/cm³	ISO 1183
Molding Shrinkage	0.60 to 1.1 %	0.60 to 1.1 %	ISO 294-4
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus	783000 psi	5400 MPa	ISO 527-1/1
Tensile Stress (Break)	4640 psi	32.0 MPa	ISO 527-2/50
Tensile Strain (Yield)	0.80 to 2.0 %	0.80 to 2.0 %	ISO 527-2
Tensile Strain (Break)	> 10 %	> 10 %	ISO 527-2/50
Impact	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Charpy Notched Impact Strength	2.4 ft·lb/in²	5.0 kJ/m²	ISO 179
Charpy Unnotched Impact Strength	4.8 ft·lb/in²	10 kJ/m²	ISO 179
Thermal	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Deflection Temperature Under Load			ISO 75-2/B
66 psi (0.45 MPa), Unannealed	302 °F	150 °C	
Deflection Temperature Under Load			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	230 °F	110 °C	
Thermal Conductivity	10 to 14 Btu·in/hr/ft²/°F	1.5 to 2.0 W/m/K	ASTM E1461
Electrical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Surface Resistivity	< 1.0E+3 ohms	< 1.0E+3 ohms	IEC 60093

Additional Information
Shielding properties: Attenuation coefficient at 511 keV = 0.72cm-1 Half Thickness at 511 keV = 0.96cm

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	4.0 hr	4.0 hr
Processing (Melt) Temp	446 to 536 °F	230 to 280 °C
Mold Temperature	149 to 212 °F	65 to 100 °C

Notes

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

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