Trilliant™ HC HC6200-5001 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	• 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	11.0 g/cm³	11.0 g/cm³	ISO 1183
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus	1.29E+6 psi	8900 MPa	ISO 527-1/1
Tensile Stress (Break)	5800 psi	40.0 MPa	ISO 527-2/50
Tensile Strain (Break)	0.80 %	0.80 %	ISO 527-2/50
Flexural Modulus	1.31E+6 psi	9000 MPa	ISO 178
Flexural Stress	9430 psi	65.0 MPa	ISO 178
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	320 °F	160 °C	
Deflection Temperature Under Load			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	266 °F	130 °C	
Thermal Conductivity [2]	21 to 24 Btu·in/hr/ft²/°F	3.0 to 3.5 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 = 0.94cm-1
Half Thickness at 511 keV = 0.74cm

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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	518 to 572 °F	270 to 300 °C
Mold Temperature	176 to 248 °F	80 to 120 °C
Injection Rate	Fast	Fast

Notes

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

[2] Through Plane

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