Gravi-Tech™ GRV NJ-110-W grey

Polyamide 12

Key Characteristics

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	• 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
Molding Shrinkage	0.40 to 0.80 %	0.40 to 0.80 %	ISO 294-4
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus	1.16E+6 psi	8000 MPa	ISO 527-1/1
Tensile Stress (Break)	6530 psi	45.0 MPa	ISO 527-2/50
Tensile Strain (Break)	0.50 to 1.0 %	0.50 to 1.0 %	ISO 527-2/50
Flexural Modulus	1.45E+6 psi	10000 MPa	ISO 178
Flexural Stress	10900 psi	75.0 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

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	4.0 hr	4.0 hr
Suggested Max Moisture	1.0 %	1.0 %
Processing (Melt) Temp	446 to 536 °F	230 to 280 °C
Mold Temperature	149 to 212 °F	65 to 100 °C

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Notes

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

[2] Through Plane

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