



# Gravi-Tech™ GRV-NP-040-W-NAT

## Polyamide 12

### Key Characteristics

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Impact Modifier		
Features	• High Density	• Impact Modified	• Non-Toxic
Uses	• Industrial Applications • Medical/Healthcare Applications	• Projectiles • Radiation Shielding	• Sporting Goods • Weighting & Balancing
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

### Technical Properties <sup>1</sup>

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	4.00	4.00	ASTM D792
Molding Shrinkage - Flow	9.0E-3 to 0.014 in/in	0.90 to 1.4 %	ASTM D955
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Strength <sup>2</sup> (Yield)	3550 psi	24.5 MPa	ASTM D638
Tensile Elongation <sup>2</sup> (Break)	25 %	25 %	ASTM D638
Flexural Modulus	110000 psi	758 MPa	ASTM D790
Flexural Strength <sup>3</sup> (Yield)	4400 psi	30.3 MPa	ASTM D790
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact 73°F (23°C), 0.125 in (3.18 mm), Injection Molded	2.0 ft-lb/in	110 J/m	ASTM D256A
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed, 0.250 in (6.35 mm)	246 °F	119 °C	ASTM D648

### Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Time	4.0 to 5.0 hr	4.0 to 5.0 hr
Suggested Max Moisture	0.030 to 0.050 %	0.030 to 0.050 %
Rear Temperature	425 to 465 °F	218 to 241 °C
Middle Temperature	430 to 480 °F	221 to 249 °C
Front Temperature	420 to 490 °F	216 to 254 °C
Nozzle Temperature	440 to 480 °F	227 to 249 °C
Mold Temperature	100 to 200 °F	38 to 93 °C

**Notes**

<sup>1</sup> Typical values are not to be construed as specifications.

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<sup>2</sup> Type I, 0.20 in/min (5.1 mm/min)

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<sup>3</sup> 0.50 in/min (13 mm/min)