

PolyOne Gravi-Tech™ GRV-NP-110-W-NAT Polyamide 12 (Nylon 12)

Category : Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Gravi-Tech-GRV-NP-110-W-NAT-Polyamide-12-Nylon-12.php

Physical Properties	Metric	English	Comments
Specific Gravity	11.0 g/cc	11.0 g/cc	ASTM D792
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	27.2 MPa	3950 psi	Type I, 5.1 mm/min; ASTM D638
Elongation at Break	1.8 %	1.8 %	Type I, 5.1 mm/min; ASTM D638
Tensile Modulus	8.27 GPa	1200 ksi	Type I, 5.1 mm/min; ASTM D638
Flexural Strength	48.3 MPa	7010 psi	ASTM D790
Flexural Modulus	4.96 GPa	719 ksi	ASTM D790
Poissons Ratio	0.35	0.35	ASTM E132
Shear Modulus	3.06 GPa	444 ksi	Calculated
Izod Impact, Notched	1.10 J/cm @Thickness 3.18 mm, Temperature 23.0 °C	2.06 ft-lb/in @Thickness 0.125 in, Temperature 73.4 °F	Injection Molded; ASTM D256A
Izod Impact, Unnotched	3.70 J/cm @Thickness 3.18 mm, Temperature 23.0 °C	6.93 ft-lb/in @Thickness 0.125 in, Temperature 73.4 °F	Injection Molded; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	63.0 µm/m-°C @Temperature 0.000 - 32.0 °C	35.0 µin/in-°F @Temperature 32.0 - 89.6 °F	ASTM E831
	100 µm/m-°C @Temperature 60.0 - 100 °C	55.6 µin/in-°F @Temperature 140 - 212 °F	ASTM E831
CTE, linear, Transverse to Flow	57.0 µm/m-°C	31.7 µin/in-°F	ASTM E831

Thermal Properties	Metric @Temperature 0.000 - 32.0 °C	English @Temperature 32.0 - 89.6 °F	Comments
	84.0 µm/m-°C	46.7 µin/in-°F	ASTM E831
	@Temperature 60.0 - 100 °C	@Temperature 140 - 212 °F	
Thermal Conductivity	3.50 W/m-K	24.3 BTU-in/hr-ft²-°F	The value listed as thermal conductivity, ASTM C177, was tested in accordance with ASTM E1461.; ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	138 °C @Thickness 6.35 mm	280 °F @Thickness 0.250 in	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	87.8 °C @Thickness 6.35 mm	190 °F @Thickness 0.250 in	Unannealed; ASTM D648

Processing Properties	Metric	English	Comments
Melt Temperature	260 - 288 °C	500 - 550 °F	
Mold Temperature	82.2 - 149 °C	180 - 300 °F	
Drying Temperature	79.4 °C	175 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Additive	Impact Modifier	
Appearance	Natural Color	
Features	High Density	
	Impact Modified	
	Non-Toxic	
Forms	Pellets	
Generic Material	Nylon 12	
Generic Name	Polyamide 12 (Nylon 12)	
Processing Method	Injection Molding	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	

Descriptive Properties	Value	Comments
Uses	North America	
	South America	
	Industrial Applications	
	Medical/Healthcare Applications	
	Projectiles	
	Radiation Shielding	
	Sporting Goods	
	Weighting & Balancing	

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