



# Gravi-Tech™ GRV-SF-040-CU-GF-NAT

## Polyphenylene Sulfide

### Key Characteristics

#### Product Description

Gravi-Tech™ polymer-metal composites offer a high-performance thermoplastic-based alternative to lead and traditional metals. Using a variety of metallic fillers, these compounds have densities similar to traditional metals, while offering design and processing flexibility.

#### General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• High Flow	• High Specific Gravity	• Non-Toxic
Uses	• Industrial Applications • Medical/Healthcare Applications	• Projectiles • 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	1.5E-3 to 2.5E-3 in/in	0.15 to 0.25 %	ASTM D955
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus <sup>2</sup>	2.50E+6 psi	17200 MPa	ASTM D638
Tensile Strength <sup>2</sup> (Yield)	9600 psi	66.2 MPa	ASTM D638
Tensile Elongation <sup>2</sup> (Break)	1.0 %	1.0 %	ASTM D638
Flexural Modulus	2.10E+6 psi	14500 MPa	ASTM D790
Flexural Strength	17500 psi	121 MPa	ASTM D790
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact <sup>3</sup> 73°F (23°C), 0.250 in (6.35 mm), Injection Molded	1.0 ft·lb/in	53 J/m	ASTM D648

### Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	280 °F	138 °C
Drying Time	2.0 to 3.0 hr	2.0 to 3.0 hr
Suggested Max Moisture	0.015 to 0.020 %	0.015 to 0.020 %
Rear Temperature	520 to 630 °F	271 to 332 °C
Middle Temperature	590 to 630 °F	310 to 332 °C
Front Temperature	610 to 620 °F	321 to 327 °C
Nozzle Temperature	610 to 620 °F	321 to 327 °C
Processing (Melt) Temp	585 to 630 °F	307 to 332 °C
Mold Temperature	190 to 300 °F	88 to 149 °C

**Notes**

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

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

<sup>3</sup> Method A



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