



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 ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
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 ²	2.50E+6 psi	17200 MPa	ASTM D638
Tensile Strength ² (Yield)	9600 psi	66.2 MPa	ASTM D638
Tensile Elongation ² (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 ³			ASTM D648
73°F (23°C), 0.250 in (6.35 mm), Injection Molded	1.0 ft·lb/in	53 J/m	

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	87.8 to 149 °C

Copyright © 2016 PolyOne Corporation. PolyOne makes no representations, guarantees, or warranties of any kind with respect to the Information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the Information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the Information. PolyOne makes no warranties or guarantees respecting suitability of either PolyOne's products or the Information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the Information and/or use or handling of any product. POLYONE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the Information or products reflected by the Information. This data sheet shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.

Notes

¹ Typical values are not to be construed as specifications.

² Type I, 0.20 in/min (5.1 mm/min)

³ Method A

CONTACT INFORMATION**Americas**

United States - Avon Lake
+1 440 930 1000

United States - McHenry
+1 815 385 8500

Asia

China - Guangzhou
+86 20 8732 7260

China - Shenzhen
+86 755 2969 2888

China - Suzhou
+86 512 6823 24 38

China - Suzhou
+86 512 6265 2600

Hong Kong -
+852 2690 5332

Taiwan - Yonghe City,
+886 9396 99740, +886 2929 1849

Europe

Germany - Gaggenau
+49 7225 6802 0

Spain - Barbastro (Huesca)
+34 974 310 314



Beyond Polymers.

Better Business Solutions.™

www.polyone.com

PolyOne Americas

33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000
+1 866 POLYONE

PolyOne Asia

No. 88 Guoshoujing Road
Z.J Hi-tech Park, Pudong
Shanghai, 201203, China
+86 21 5080 1188

PolyOne Europe

6 Giällewee
+352 269 050 35

Copyright ©, 2016 PolyOne Corporation. PolyOne makes no representations, guarantees, or warranties of any kind with respect to the Information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the Information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the Information. PolyOne makes no warranties or guarantees respecting suitability of either PolyOne's products or the Information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the Information and/or use or handling of any product. POLYONE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the Information or products reflected by the Information. This data sheet shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.