

GRI-G™ Insulation System

GrafTech International is a global leader in graphite and carbon products. We enable customer leadership better and faster than our competition, through the creation, innovation and manufacture of carbon and graphite material science based solutions.

GRI-G™ Insulation System

GRI-G™ insulation from GrafTech is an advanced high temperature insulation that enhances the insulating ability of GRI™ insulation with the unique material properties of GRAFOIL® sheet.

The GRAFOIL® layer, a reflector of thermal radiation, is electrically and thermally anisotropic. It rapidly dissipates heat from the hottest zones to colder ones, providing uniform temperatures and the elimination of hot and cold spots. Durable GRAFOIL® insulation prevents erosion and contamination from fiber dusting without giving up chemical resistance and high temperature stability.

GRI™ insulation, a sturdy lightweight carbon fiber insulator with low thermal conductivity, can withstand furnace temperatures as high as 5400 °F (3000 °C). It does not distort even during rapid temperature and pressure fluctuations and is more cost effective than metallic heat shields. With its low density, GRI™ insulation cools rapidly, cycles quickly and requires less power to reach equilibrium at operating temperatures.

Typical Applications

- Vacuum furnace insulation
- Inert gas furnace insulation
- Inert gas atmosphere process equipment insulation



Sizes

Thickness	Standard Cut Sizes				Metric
1"	24 x 42"	24 x 48"	24 x 52"	40 x 60"	30 x 1000 x 1500 mm
1.5"	24 x 42"	24 x 48"	24 x 52"		40 x 1000 x 1500 mm
2"		24 x 48"	24 x 52"		50 x 1000 x 1500 mm

Custom sizes and shapes, including cylinders are available on request

Typical Properties (Room Temperature)*

	<u>ENGLISH</u>	<u>WG</u>	<u>AG</u>	<u>SI</u>	<u>WG</u>	<u>AG</u>
Density	lbs/ft ³		11.3	g/cm ³		0.18
Apparent Porosity	%		90	%		90
Specific Resistance	10 ⁻⁴ Ω in.	285	2100	μΩm	720	5300
Flexural Strength	psi	275	30	MPa	1.9	0.2
Compressive Strength	psi	220	185	MPa	1.5	1.3
Thermal Conductivity 25 °C	BTU-ft/hr ft ² °F	0.25	0.09	W/mK	0.42	0.15
Thermal Conductivity 800 °C in Argon	BTU-ft/hr ft ² °F	0.54	0.32	W/mK	0.92	0.55
Carbon Content	%		99.5	%		99.5
Ash Content	%		0.15	%		0.15
CTE (RT to 1000 °C)	10 ⁻⁶ /°F	1.67	1.72	10 ⁻⁶ /K	3.00	3.10
CTE (RT to 2000 °C)	10 ⁻⁶ /°F	3.22	2.89	10 ⁻⁶ /K	5.80	5.20

* Please contact GrafTech for high temperature and additional properties

This information is based on data believed to be reliable but GrafTech makes no warranties, express or implied, as to its accuracy and assumes no liability arising out of its use. The data listed falls within the normal range of product properties but should not be used to establish specification limits or used alone as the basis of design. GrafTech's liability to purchasers is expressly limited to the terms and conditions of sale. GRI, GRI-G and GRAFOIL are trademarks of GrafTech International Holdings Inc.

GT-4041
Rev. 2

101 N. Philippi Pike, Anmoore, WV 26323-0120
Ph: +1-800-842-8805; +1-304-624-1253

La Lechere, 73264 Aigueblanche Cedex, France
Ph: +33 04 79 41 45 00

Via Forno Allione, 2, I-25040 Malonno, Brescia, Italy
Ph: 39-0364-630-131

© 2009 GrafTech International Holdings Inc.