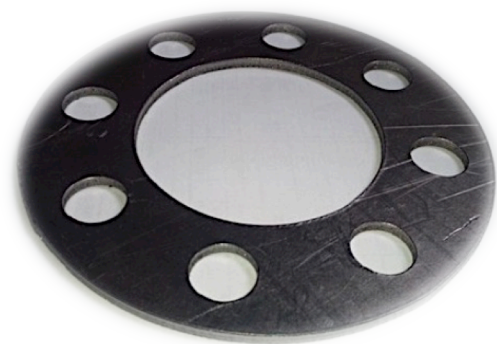


- GRAFOIL® Single Layer flexible graphite materials are pure graphite compressed at high pressure to form the various thicknesses.
- Graphite purity range 97% to 99.998%
- Continuous operating temperature ranges from - 240°C to 525°C, also function up to 3000°C in vacuum or reducing environments.
- Chemical resistant to aggressive chemical.
- The most efficient sealing gaskets and packing
- Good and healthy replacement for asbestos
- Unlimited shelf Life
- Low outgassing



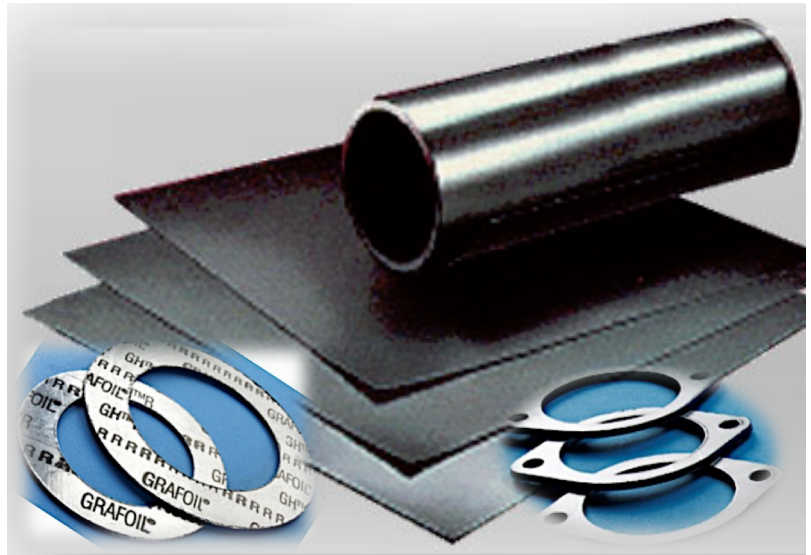
Product Family

Single Layer Material (Service to 450°C)

TG-411 – 99.998% Graphite

Product Overview

GRAFOIL® TG-411 flexible graphite is highly purified for applications requiring ultra-high purity levels.



Typical Properties* GRAFOIL® TG-411

Characteristic	Typical Value
Thickness	0.015" (0.38 mm)
Sheet size	18.11" x 29.53" (460 mm x 750 mm)
Bulk Density	70 lb/ft ³ (1.12 g/cc)
Chlorine (Cl)	0.23 ppm
Calcium (Ca)	0.17 ppm
Sulfur (S)	1.15 ppm
Sodium (Na)	0.08 ppm
Aluminum (Al)	0.06 ppm
Phosphorous (P)	0.19 ppm
Iron (Fe)	0.15 ppm
Zinc (Zn)	<0.05 ppm
Potassium (K)	0.02 ppm
Magnesium (Mg)	0.01 ppm
Cobalt	<0.05 ppm
Chromium (Cr)	<0.10 ppm
Boron (B)	0.02 ppm
Copper (Cu)	<0.05 ppm
Nickel (Ni)	0.01 ppm
Arsenic (As)	<0.01 ppm
Silicon (Si)	1.15 ppm
Manganese (Mn)	<0.010 ppm
Mercury (Hg)	<0.5 ppm
Tantalum (Ta)	< 5 ppm
Bromine (Br)	<0.1 ppm
Selenium (Se)	<0.1 ppm
Germanium (Ge)	<0.1 ppm
Titanium (Ti)	0.05 ppm
Lithium (Li)	<0.05) ppm
Total Impurities	3.4 ppm
Certification	Certify to Grade

Note: *Properties listed are typical and cannot be used as accept/reject specifications

Asia authorized distributor: Everjoy Industrial Supplies Pte. Ltd.

Telephone: +65 6748 3093 Fax: +65 6748 7202 Email: salesmgnt@everjoy.com.sg

Product Family

Single Layer Material – (Service to 450°C)
GTA – 99.8% Graphite

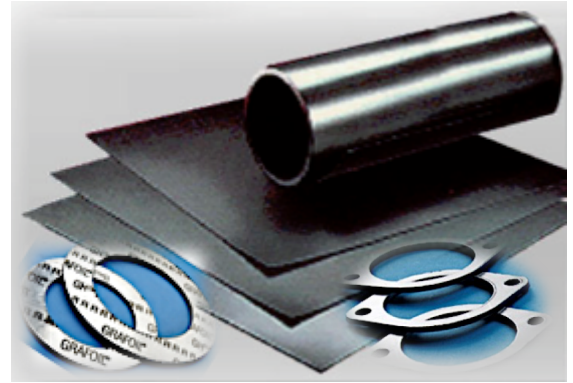
Product Overview

GRAFOIL[®] GTA flexible graphite is a nuclear-certified and high-purity for use in nuclear applications. It is certified to meet General Electric Nuclear Nonmetallic Material Specification D50YP12 (Rev 2).

Applications

Applications that do not require oxidation inhibitor.

- Nuclear
- Semiconductor



Typical Properties* GRAFOIL® GTA

Characteristic	Typical Value
Thickness	0.005" (0.13 mm) 0.010" (0.25 mm) 0.015" (0.38 mm) 0.020" (0.51 mm) 0.025" (0.64 mm) 0.030" (0.76 mm)
Width	24" (610 mm) 39.4" (1000 mm) for >0.015" (0.38 mm)
Length	100' (30.5 m)
Bulk Density	70 lb/ft ³ (1.12 g/cc)
Ash Content	0.2%
Carbon Content	99.8%
Leachable Chloride	<10 ppm
Sulfur Content	450 ppm
Total Chlorides	<50 ppm
Total Fluorides	<10 ppm
Total Halogens	40 ppm
Total Nitrates	10 ppm
Mercury (Hg)	<0.5 ppm
Phosphorus	30 ppm
Aluminum (Al)	15 ppm
Copper (Cu)	<10 ppm
Operating Temperature (in air) (in vacuum or reducing environments)	-400°F to 850°F (-240°C to 450°C) -400°F to 5400°F (-240°C to 3000°C)
Certification	Certify to Grade

Note: *Properties listed are typical and cannot be used as accept/reject specifications

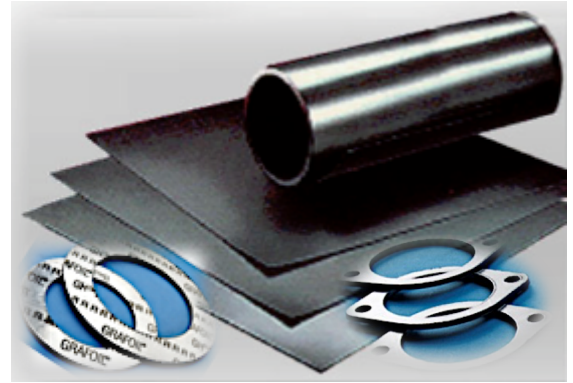
While maintaining an effective seal, GRAFOIL® material exhibits virtually no creep relaxation. As a result, the need for periodic bolt tightening is greatly reduced.

Product Family

Single Layer Material – (Service to 450°C)
GTC – 97% Graphite

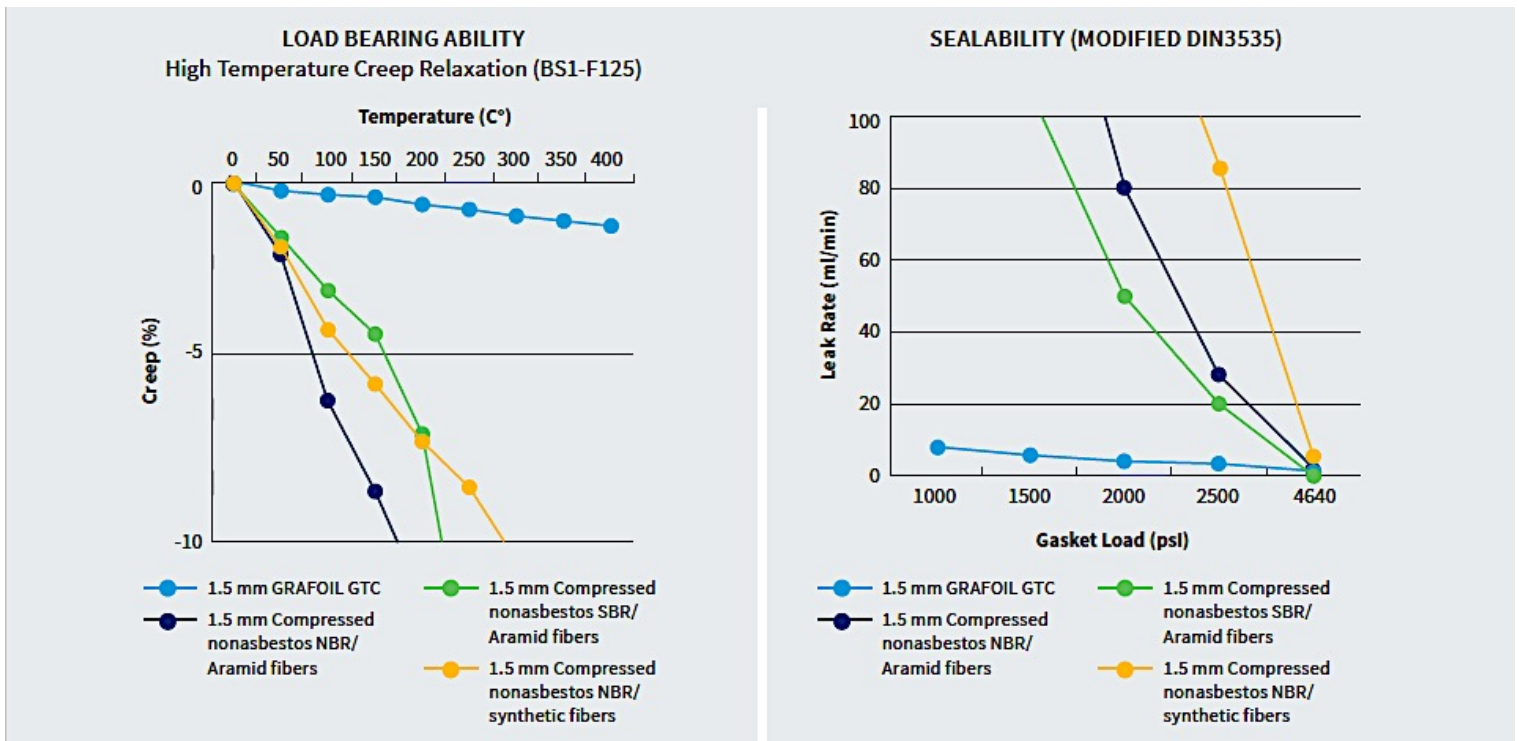
Product Overview

GRAFOIL® GTC flexible graphite is designed for use in most automotive or internal combustion applications.



Applications

- High temperature sealing applications where binder-based materials fail.
- Often combined with insert to make head gaskets, manifold gaskets and EGR assemblies.



While maintaining an effective seal, GRAFOIL® material exhibits virtually no creep relaxation. As a result, the need for periodic bolt tightening is greatly reduced.



Typical Properties* GRAFOIL® GTC

Characteristic	Typical Value
Thickness	0.015" (0.38 mm)
	0.020" (0.51 mm)
	0.025" (0.64 mm)
	0.030" (0.76 mm)
	0.035" (0.89 mm)
Width	39.4" (1000 mm)
Length	100' (30.5 mm)
Bulk Density	70 lb/ft ³ (1.12 g/cc)
Ash Content	3%
Carbon Content	97%
Moisture	0.1%
Leachable Chloride	< 10 ppm
Oxidation Weight Loss	12%
Compressibility at 5000 psi (35 MPa) load	43%
Recovery at 5000 psi (35 MPa) load	13%
Tensile Strength	650 psi
Operating Temperature	-400°F to 840°F (-240°C to 450°C)
Creep Relaxation Method: BSI-F 125 at 6391 psi (44.1 MPa) load up to 400°C	<3% for 70 lb/ft ³
Sealability Method: Mod DIN 3535 at 580 psi N2 at 32 MPa load	<1.5 ml/min for 70 lb/ft ³
Certification	Certify to Grade

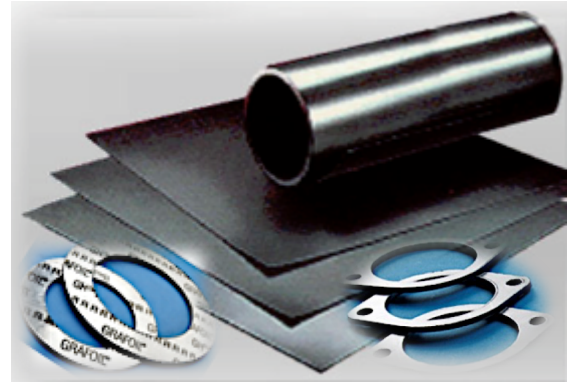
Note: *Properties listed are typical and cannot be used as accept/reject specifications

Product Family

Single Layer Material – (Service to 450°C)
TG - 337 – 97% Graphite

Product Overview

GRAFOIL[®] TG - 337 flexible graphite is designed to allow more variation in ash content and density than GRAFOIL[®] GTC flexible graphite.



Applications

- High temperature sealing applications where binder-based materials fail.
- Often combined with insert to make head gaskets, manifold gaskets and EGR assemblies.

While maintaining an effective seal, GRAFOIL[®] material exhibits virtually no creep relaxation. As a result, the need for periodic bolt tightening is greatly reduced.

Typical Properties* GRAFOIL® TG - 337

Characteristic	Typical Value
Thickness	0.015" (0.38 mm) 0.025" (0.64 mm) 0.030" (0.76 mm)
Width	39.4" (1000 mm)
Length	100' (30.5 mm)
Bulk Density	64 lb/ft ³ (1.0 g/cc)
Ash Content	3%
Carbon Content	97%
Moisture	0.1%
Leachable Chloride	< 20 ppm
Sulfur Content	800 ppm
Compressibility at 5000 psi (35 MPa) load	45%
Recovery at 5000 psi (35 MPa) load	10%
Tensile Strength	400 psi
Operating Temperature	-400°F to 840°F (-240°C to 450°C)
Creep Relaxation Method: BSI-F 125 at 6391 psi (44.1 MPa) load up to 400°C	<4%
Sealability Method: At 1000 psi (7 MPa) load, at fluid pressure 20 psi	0.4 ml/hr
Certification	Certify to Grade

Note: *Properties listed are typical and cannot be used as accept/reject specifications

GRAFOIL[®] GTE Flexible Graphite

Made In USA

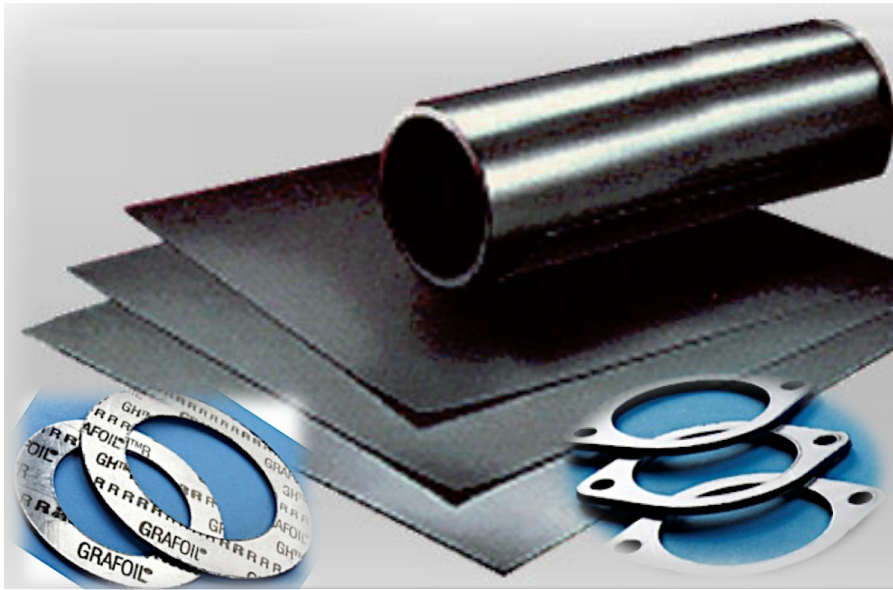
Product Family

Single Layer Material – (Service to 450°C)

GTE – 98% Graphite

Product Overview

GRAFOIL[®] GTE flexible graphite is used in most industrial fluid sealing applications when inhibition against oxidation and corrosion is not required.



Typical Properties* GRAFOIL® GTE

Characteristic	Typical Value
Thickness	0.020" (0.51 mm) 0.030" (0.76 mm) 0.040" (1.02 mm) 0.060" (1.52 mm)
Width	39.4" (1000 mm)
Length	1000' (305 mt)
Bulk Density	70 lb/ft ³ (1.12 g/cc)
Ash Content	1.8%
Carbon Content	98.2%
Leachable Chloride	10 ppm
Sulfur Content	800 ppm
Compressibility at 5000 psi (35 MPa) load	40%
Recovery at 5000 psi (35 MPa) load	13%
Tensile Strength	450 psi
Operating Temperature	-240°F to 850°F (-150°C to 450°C)
Certification	Certify to Grade

Note: *Properties listed are typical and cannot be used as accept/reject specifications

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