NEOGRAF™ SOLUTIONS

GRAFOIL®

GRAFKOTE® Non-Metal Reinforced Laminate

TECHNICAL DATA SHEET 144

Product Family - Laminates (Non-Metal Reinforced)

- GHP - GTB with Plastic Insert
- GHN - TG-337 with Plastic Insert
- GHW - GTB with Woven Glass Fiber Insert
- **GRAFKOTE® - GTB with Plastic Facing**

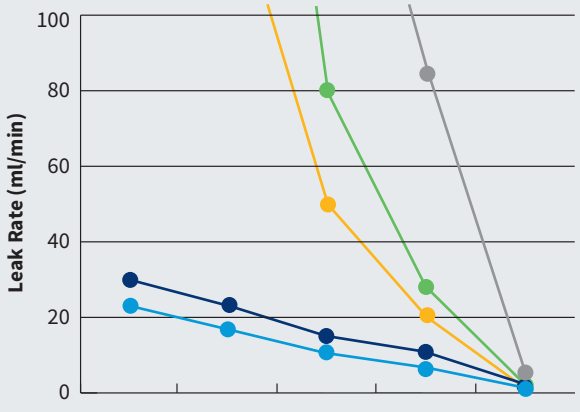
Product Overview

GRAFOIL® GRAFKOTE® non-metal reinforced laminate consists of GRAFOIL® GTB flexible graphite with a polymer facing thermally bonded on one ("Single-Sided") or both ("Double-Sided") faces. The polymer facing enhances product handleability and durability.

Applications

- Valves
- Pumps
- Pipe Flanges/ASME/API/DIN flanges
- Glass-lined or low load flange equipment
- Steam traps
- Heat exchangers
- Compressors

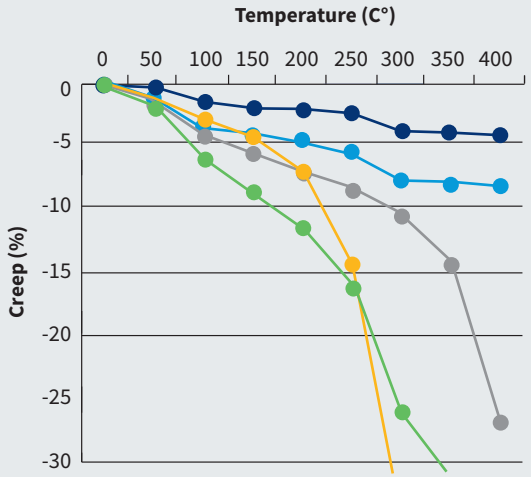
SEALABILITY (MODIFIED DIN3535)



- 1.5 mm Double Sided GRAFKOTE®
- 1.5 mm Single Sided GRAFKOTE®
- 1.5 mm Compressed nonasbestos NBR/Aramid fibers
- 1.5 mm Compressed nonasbestos SBR/Aramid fibers
- 1.5 mm Compressed nonasbestos NBR/synthetic fibers

LOAD BEARING ABILITY

High Temperature Creep Relaxation (BS1-F125)



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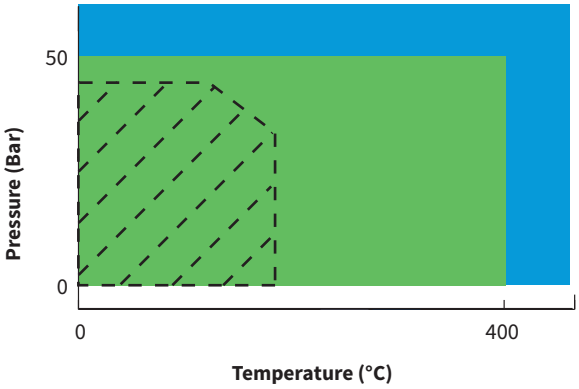
PT Guidelines



GRAFKOTE® material PxT: 8,662,500

- Recommended for non-asbestos fiber sheet
- Recommended for GRAFKOTE products
- Not recommended for GRAFKOTE products

The pT Guidelines chart offers general recommendations for gasketing materials, based on pressure and operating temperature. This information is offered only as a guideline and should not be viewed independently from application environment, chemical compatibility and gasket thickness.

Advantages of GRAFKOTE® Non-Metal Reinforced Laminate

- Compatible with a wide range of chemicals
- Maximum continuous use temperature 400°C (750°F)
- No shelf life
- Material availability in rolls allows for maximum material utilization
- Easily cut
- Improved handleability, durability
- Superior to non-asbestos fiber sheet in every characteristic (Creep, Recovery and Sealability)

Typical Properties*

CHARACTERISTIC	TYPICAL VALUE
Thickness of Laminate	0.030" (0.76 mm) for Single-Sided 0.060" (1.52 mm) for Single-Sided 0.062" (1.57 mm) for Double-Sided
Width	39.4" (1000 mm)
Length	39.4" (1000 mm) 100' (30.5 m)
Bulk Density (Graphite)	70 lb/ft^3 (1.12 g/cc)
Application Temperature	400°C (750°F) Maximum for > 0.030" 200°C (750°F) Maximum for < 0.020"
Compressibility at 5000 psi (35 MPa) load	43%
Recovery after 5000 psi (35 MPa) load	20%
Creep Relaxation Method: BSI-F125 at 6391 psi (44.1 MPa) load up to 400°C	<4% for 70 lb/ft^3
Tensile Strength	800 psi (5.5 MPa) for ≥ 0.030" Thick 950 psi (6.6 MPa) for 0.010" Thick
Pressure classes	ASME 150, ASME 300, PN20, PN50
Certification	Certify to Grade

GRAFOIL® GRAFKOTE® NON-METAL REINFORCED LAMINATE

Single-Sided Laminate Construction

1) 0.0005" thick polymer
2) GRAFOIL® GTB flexible graphite (per Technical Bulletin 436)

Double-Sided Laminate Construction

1) 0.0005" thick polymer
2) GRAFOIL® GTB flexible graphite (per Technical Bulletin 436)
3) 0.0005" thick polymer

ASTM IRM 903 OIL (5 HRS AT 150°C)
Thickness Change: 2%
Weight Change: 30%

50/50 WATER GLYCOL (22 HRS BOILING)
Thickness Change: 3%
Weight Change: 50%

FUEL B (5 HRS AT ROOM TEMP)
Thickness Change: 5%
Weight Change: 33%

ASTM IRM OIL 1 (5 HRS AT 150°C)
Thickness Change: 3%
Weight Change: 38%

DISTILLED WATER (5 HRS AT 100°C)
Thickness Change: 1.5%
Weight Change: 40%

ASME Gasket Factors

- “m” Factor: 2
- “y” Stress: 900 psi (6.22 MPa)
- Max Gasket Unit Load: 6,526 psi (45 MPa)

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