

# Non-Metal Reinforced Laminates

Technical Data Sheet 144

## Standard Grades

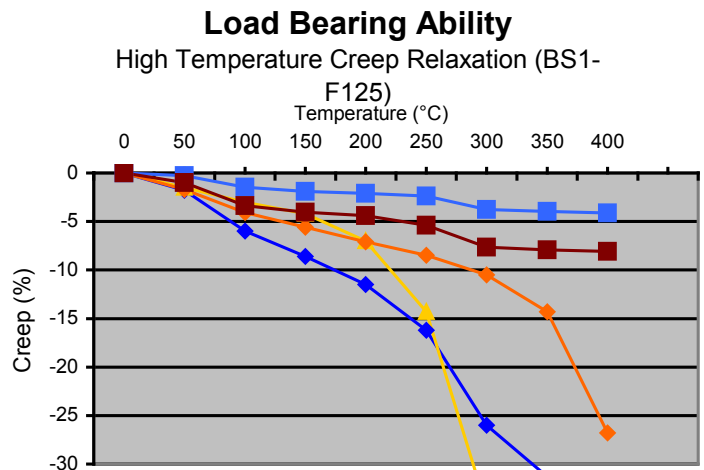
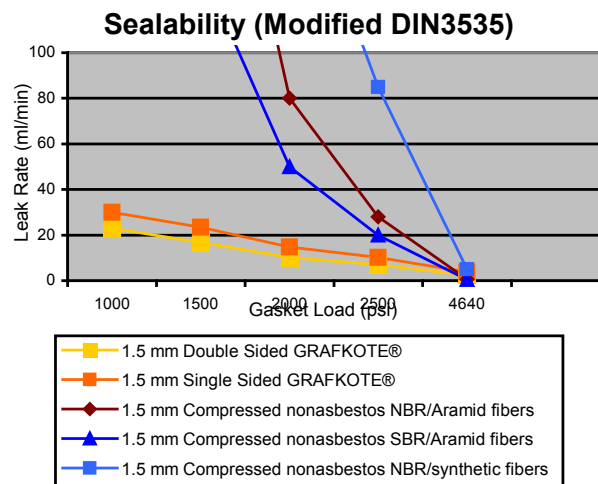


## Product Overview

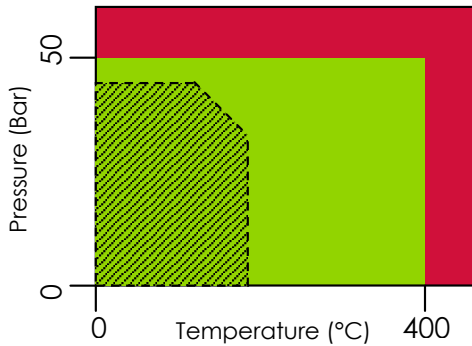
GRAFOIL GRAFKOTE laminates are made with GRAFOIL Grade GTB flexible graphite thermally bonded to a 0.0005" thick polymer facing on one ("Single-Sided") or both ("Double-Sided") sides. The polymer facing enhances product handleability and durability, making GRAFKOTE laminates an excellent gasketing material. Each laminate is surface identifiable, branded with the GRAFOIL grade.

## Applications




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



## 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 Products

- 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	Value
Thickness of Laminate	0.030" (0.76 mm) Standard for Single-Sided 0.060" (1.52 mm) Standard for Single-Sided 0.062" (1.57 mm) Standard for Double-Sided Non-standard thicknesses may be available upon request
Width	39.4" (1000 mm) Standard Non-standard widths may be available upon request
Length	39.4" (1000 mm) Standard 100' (30.5 m) Standard (Not available for 0.082" thick) Non-standard lengths may be available upon request
Bulk Density (Graphite)	70 lb/ft <sup>3</sup> (1.12 g/cc) Standard Non-standard densities may be available upon request
Application Temperature	400°C (750°F) Maximum for 0.030", 0.060", 0.062", 0.082" thick 200°C (750°F) Maximum for 0.010", 0.017" thick
Compressibility at 5000 psi (35 MPa) load	43% Typical
Recovery after 5000 psi (35 MPa) load	20% Typical
Creep Relaxation Method: BSI-F125 at 6391 psi (44.1 MPa) load up to 400°C	<4% Typical for 70 lb/ft <sup>3</sup>
Tensile Strength	800 psi (5.5 MPa) Typical for ≥ 0.030" Thick 950 psi (6.6 MPa) Typical for 0.010" Thick
Pressure classes	ASME 150, ASME 300, PN20, PN50
Certification	Certify to Grade

Notes:

\* Properties listed are typical and cannot be used as accept/reject specifications.

## Single-Sided Laminate Construction

- 1) 0.0005" thick polymer
- 2) GRAFOIL Grade GTB (per Technical Bulletin 436)

## Double-Sided Laminate Construction

- 1) 0.0005" thick polymer
- 2) GRAFOIL Grade GTB (per Technical Bulletin 436)
- 3) 0.0005" thick polymer

## Fluid Soaking Properties

ASTM IRM 903 Oil (5 hrs at 150°C)	50/50 Water Glycol (22 hrs boiling)	Fuel B (5 hrs at room temp)
Thickness Change: 2%	Thickness Change: 3%	Thickness Change: 5%
Weight Change: 30%	Weight Change: 50%	Weight Change: 33%

ASTM IRM Oil 1 (5 hrs at 150°C)	Distilled Water (5 hrs at 100°C)
Thickness Change: 3%	Thickness Change: 1.5%
Weight Change: 38%	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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