



Garlock Graph-Lock® 3123/3125

MATERIAL PROPERTIES*

Composition:	Graphite sheet -Purified natural graphite flake that has been acid washed, expanded under heat, and then compressed into sheets with a minimum graphite content of 98%. For thicknesses $\leq 1/16$ " homogeneous graphite is used. For thicknesses $> 1/16$ " laminated graphite is used. The laminated graphite sheets are bonded with a proprietary adhesive. This adhesive comprises less than 1% of the total laminated weight.
Color:	Black
Temperature², °F (°C)	
Minimum:	-400 (-240)
Continuous Max ³ :	+850 (+454)
Pressure², Maximum, psig (bar):	2000 (138)
P x T (max.)², psig x °F (bar x °C)	
1/32 and 1/16":	700,000 (25,000)
1/8":	350,000 (12,000)
Meets Specification:	Fire Safe

PHYSICAL PROPERTIES*

ASTM F36	Compressibility, %:	45
ASTM F36	Recovery, %:	12
ASTM F38	Creep Relaxation, %:	10
ASTM F152	Tensile, Across Grain, psi (N/mm²):	500 (3.4)
DIN 52913	Stability Under Stress, % (N/mm²):	90
ASTM F1315	Density, lbs./ft.³ (grams/cm³):	70 (1.12)
ASTM F586	Design Factors	
	"m" factor:	1/16" 1/8" 2.0 2.0
	"y" factor, psi (N/mm ²):	2500 (17.2) 2500 (17.2)
ROTT	Gasket Constants, 1/16":	Gb=970 a=0.384 Gs=0.05
ASTM F104	Line Call Out:	F507000B2M2

SEALING CHARACTERISTICS*

	ASTM F37B Fuel A	ASTM F37B Nitrogen	DIN 3535- 4 Gas Permeability
Gasket Load, psi (N/mm²):	500 (3.5)	3000 (20.7)	4640 (32)
Internal Pressure, psig (bar):	9.8 (0.7)	30 (2)	580 (40)
Leakage	1.0 ml/hr.	1.5 ml/hr.	1.5 cc/min

Chemical Impurity Data

Chemical Limits	
Leachable Levels, Max., ppm	Total Chemical Limits, Max., ppm
Chlorides⁴:	Total Chlorides:
50	500
Fluorides:	Total Fluorides:
100	500
Sulfur:	Total Sulfur⁵:
200	500

Notes:

This is a general guide and should not be the sole means of selecting or rejecting this material. ASTM test results in accordance with ASTM F-104; properties based on 1/32" (0.8mm) sheet thickness unless otherwise mentioned.

* Values do not constitute specification Limits

² Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or 50% of maximum P x T, consult Garlock Applications Engineering.

³ Maximum temperature of +1000°F (+540°C) for GRAPH-LOCK HT.

⁴ The leachable chloride level for laminated 3125 material is 100ppm.

⁵ The total sulfur level for laminated 3125 material is 1200ppm.