

GRAPH-LOCK® Style 3123/3125

MATERIAL PROPERTIES*:

Color:	Black
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 <1/16" homogeneous graphite is used. For thickness > 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.
Temperature¹, °F (°C)	
Minimum:	-400 (-240)
Continuous Max:	+850 (+454)
Pressure¹, Maximum, psig (bar):	2000 (138)
P x T (max.)¹, psig x °F (bar x °C):	
1/32 and 1/16":	700,000 (25,000)
1/8"	350,000 (12,000)
Meets Specifications:	Fire Safe

TYPICAL PHYSICAL PROPERTIES*:

ASTM F36	Compressibility, average, %:	45
ASTM F36	Recovery, %:	12
ASTM F38	Creep Relaxation, %:	10
ASTM F152	Tensile, Across Grain, psi (N/mm²):	500 (3.4)
DIN 52913	Load Retention, %:	90
ASTM F1315	Density, lbs./ft.³ (grams/cm³):	70 (1.12)
ASTM F586	Design Factors	<u>1/16"</u> <u>1/8"</u>
	"m" factor:	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

SEALING CHARACTERISTICS*

	ASTM F37B – Fuel A	ASTM F37B - Nitrogen	DIN 3535 – Nitrogen
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	ppm	Total Chemical Limits, Max., ppm	ppm
Chlorides⁽²⁾:	50	Total Chlorides:	500
Fluorides:	100	Total Fluorides:	500
Sulfur:	200	Total Sulfur⁽³⁾:	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

¹ 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. Minimum temperature rating is conservative.

² The leachable chloride level for laminated 3125 material is 100ppm.

³ The total sulfur level for laminated 3125 material is 1200ppm.

12/5/16