



## Garlock Graph-Lock® 3123/3125

### MATERIAL PROPERTIES\*

<b>Composition:</b>	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.
<b>Color:</b>	Black
<b>Temperature<sup>2</sup>, °F (°C)</b>	
Minimum:	-400 (-240)
Continuous Max <sup>3</sup> :	+850 (+454)
<b>Pressure<sup>2</sup>, Maximum, psig (bar):</b>	2000 (138)
<b>P x T (max.)<sup>2</sup>, psig x °F (bar x °C)</b>	
1/32 and 1/16":	700,000 (25,000)
1/8":	350,000 (12,000)
<b>Meets Specification:</b>	Fire Safe

### PHYSICAL PROPERTIES\*

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

### SEALING CHARACTERISTICS\*

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

### Chemical Impurity Data

<b>Chemical Limits</b>	
<b>Leachable Levels, Max., ppm</b>	<b>Total Chemical Limits, Max., ppm</b>
<b>Chlorides<sup>4</sup>:</b>	<b>Total Chlorides:</b> 500
<b>Fluorides:</b>	<b>Total Fluorides:</b> 500
<b>Sulfur:</b>	<b>Total Sulfur<sup>5</sup>:</b> 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

<sup>2</sup> Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, continuous operating temperature, minimum temperature or 50% of maximum PxT, consult Garlock Applications Engineering.

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

<sup>4</sup> The leachable chloride level for laminated 3125 material is 100ppm.

<sup>5</sup> The total sulfur level for laminated 3125 material is 1200ppm.