



HANNA RUBBER COMPANY

# Specification Sheet

## Graph-Lock® Style 3125SS

### MATERIAL PROPERTIES\*:

|  |  |
|--|--|
| <b>Color:</b>  | Black  |
| <b>Composition:</b>                                    | Graphite with a 0.002" 316SS foil insert<br>-Laminated layers of 0.015" purified natural graphite flake that have been acid washed, expanded under heat, and then compressed into sheets with a minimum graphite content of 98%. This sheet contains a 0.002" thick 316 stainless steel foil insert, bonded with a proprietary adhesive. This adhesive comprises less than 1% of the total laminated weight. |
| <b>Temperature<sup>1</sup>, °F (°C)</b>                |  |
| Minimum:   | -400 (-240)  |
| Continuous Max:  | +850 (+454)  |
| <b>Pressure<sup>1</sup>, Maximum, psig (bar):</b>      | 2000 (138)   |
| <b>P x T (max.)<sup>1</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 Specifications:</b>                           | ABS (American Bureau of Shipping), Fire Safe and MIL-DTL-24696 Type I <sup>(3)</sup>   |

### TYPICAL PHYSICAL PROPERTIES\*:

|                   |  |                          |
|-------------------|--|--------------------------|
| <b>ASTM F36</b>   | <b>Compressibility, average, %:</b>                          | 43                       |
| <b>ASTM F36</b>   | <b>Recovery, %:</b>  | 14                       |
| <b>ASTM F38</b>   | <b>Creep Relaxation, %:</b>                                  | 15                       |
| <b>ASTM F152</b>  | <b>Tensile, Across Grain, psi (N/mm<sup>2</sup>):</b>        | 4000 (27)                |
| <b>DIN 52913</b>  | <b>Load Retention, %:</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>  | <u>1/16"</u> <u>1/8"</u> |
|                   | "m" factor:  | 6.5 11.8 <sup>(2)</sup>  |
|                   | "y" factor, psi (N/mm <sup>2</sup> ):                        | 3300 (22.8) 5900 (40.7)  |
| <b>ROTT</b>       | <b>Gasket Constants, 1/16":</b>                              | Gb=816 a=0.377 Gs=0.066  |

### SEALING CHARACTERISTICS\*

|                                       | ASTM F37B – Fuel A | ASTM F37B - Nitrogen | DIN 3535 – Nitrogen |
|---------------------------------------|--------------------|----------------------|---------------------|
| <b>Gasket Load, psi (N/mm2):</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

| Chemical Limits            |     |                                  |      |
|----------------------------|-----|----------------------------------|------|
| Leachable Levels Max., ppm | ppm | Total Chemical Limits, Max., ppm | ppm  |
| <b>Chlorides:</b>          | 100 | <b>Total Chlorides:</b>          | 500  |
|                            |     | <b>Total Fluorides:</b>          | 300  |
|                            |     | <b>Total Sulfur:</b>             | 1000 |

#### 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

<sup>1</sup> 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.

<sup>2</sup> This "m" value, based on ambient temperature leakage with nitrogen, is high. Field experience has shown that lower values would be workable in elevated temperatures. Consult Applications Engineering.

<sup>3</sup> To ensure receipt of product branded Mil-DTL-24696, certification will be required - fees associated based on quantity.

12/5/16