



## Garlock 5500

### MATERIAL PROPERTIES\*

|   |  |
|---|--|
| <b>Color:</b>   | Gray   |
| <b>Composition:</b>                                   | Inorganic fibers with a nitrile binder   |
| <b>Fluid Services<sup>1</sup>:</b>                    | Saturated steam <sup>3</sup> , most refrigerants, water, oils, gasoline and aliphatic hydrocarbons |
| <b>Temperature<sup>2</sup>, °F (°C)</b>               |  |
| Minimum:  | -100 (-73)   |
| Continuous Max:                                       | +550 (+288)  |
| Maximum:  | +800 (+427)  |
| <b>Pressure<sup>2</sup>, Maximum, psig (bar):</b>     | 1200 (83)  |
| <b>P x T (max.)<sup>2</sup>, psig x °F (bar x °C)</b> |  |
| 1/32 and 1/16":                                       | 400,000 (14,000)   |
| 1/8":   | 275,000 (9,600)  |
| <b>Meets Specification:</b>                           | ABS (American Bureau of Shipping) and Fire Safe  |

### PHYSICAL PROPERTIES\*

|                   |  |                                       |
|-------------------|--|---------------------------------------|
| <b>ASTM F36</b>   | <b>Compressibility, range, %:</b>  | 7-17                                  |
| <b>ASTM F36</b>   | <b>Recovery, %:</b>  | 50                                    |
| <b>ASTM F38</b>   | <b>Creep Relaxation, %:</b>  | 15                                    |
| <b>ASTM F152</b>  | <b>Tensile, Across Grain, psi (N/mm<sup>2</sup>):</b>                              | 1500 (10)                             |
| <b>ASTM F1315</b> | <b>Density, lbs./ft.<sup>3</sup> (grams/cm<sup>3</sup>):</b>                       | 110 (1.76)                            |
| <b>ASTM F433</b>  | <b>Thermal Conductivity (K), W/m<sup>2</sup>K (Btu·in./hr·ft.<sup>2</sup>·°F):</b> | 0.43-0.53 (3.00-3.65)                 |
| <b>ASTM D149</b>  | <b>Dielectric Properties, range, volts/mil.</b>                                    |                                       |
|                   | Sample conditioning  | 1/16"      1/8"                       |
|                   | 3 hours at 250°F:  | 284      245                          |
|                   | 96 hours at 100% Relative Humidity:  | -      -                              |
| <b>ASTM F586</b>  | <b>Design Factors</b>  | 1/16" & Under      1/8"               |
|                   | "m" factor:  | 6.6      6.6                          |
|                   | "y" factor, psi (N/mm <sup>2</sup> ):  | 2600 (17.9)      3300 (22.8)          |
| <b>ROTT</b>       | <b>Gasket Constants, 1/16":</b>  | Gb=1,247      a=0.249      Gs=11.0    |
| <b>ASTM F104</b>  | <b>Line Call Out:</b>  | F712103A9B4E23K7L501M4 <sup>(4)</sup> |

### SEALING CHARACTERISTICS\*

|   | <b>ASTM F37B<br/>Fuel A</b> | <b>ASTM F37B<br/>Nitrogen</b> | <b>DIN 3535- 4<br/>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>0.2 ml/hr.</b>           | <b>1.0 ml/hr.</b>             | <b>0.05 cc/min</b>                      |

### IMMERSION PROPERTIES\* - ASTM F146 Fluid Resistance after Five Hours

|                                | <b>ASTM #1 Oil<br/>300°F (150°C)</b> | <b>ASTM IRM #903<br/>300°F (150°C)</b> | <b>ASTM Fuel A<br/>70-85°F (20-30°C)</b> | <b>ASTM Fuel B<br/>70-85°F (20-30°C)</b> |
|--------------------------------|--------------------------------------|--|--|--|
| <b>Thickness Increase, (%)</b> | 0-10                                 | 0-15                                   | 0-10                                     | 0-15                                     |
| <b>Weight Increase, (%)</b>    | <15                                  | -                                      | <10                                      | <15                                      |
| <b>Tensile Loss, (%)</b>       | -                                    | <40                                    | -  | -  |

#### 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>1</sup> See Garlock chemical resistance guide.

<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 P x T, consult Garlock Applications Engineering. Minimum temperature rating is conservative.

<sup>3</sup> Minimum recommended assembly stress = 4,800psi. Preferred assembly stress = 6,000-10,000psi. Gasket thickness of 1/16" strongly preferred. Retorque the bolts/studs prior to pressurizing the assembly. For saturated steam above 150psig or superheated steam, consult Garlock Engineering.

<sup>4</sup> A9: Leakage in Fuel A (Isooctane), Gasket Load = 500psi (3.5N/mm<sup>2</sup>), Pressure = 9.8psig (0.7bar): Typical = 0.2ml/hr, Max = 1.0ml/hr. A9: Leakage in Nitrogen, Gasket Load = 3,000psi (20.7N/mm<sup>2</sup>), Pressure = 30psig (2bar): Typical = 0.5ml/hr, Max = 1.5ml/hr.