**Style 9850**

**MATERIAL PROPERTIES**:  
<table>
<thead>
<tr>
<th>Color:</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition:</td>
<td>Carbon fibers with a nitrile binder</td>
</tr>
<tr>
<td>Fluid Services [see chemical resistance guide]:</td>
<td>Saturated steam(^2), water, oils, gasoline, aliphatic hydrocarbons and most refrigerants</td>
</tr>
</tbody>
</table>

**Temperature\(^1\), °F (°C)**  
- Minimum: -100 (-75)  
- Continuous Max: +650 (+343)  
- Maximum: +900 (+482)  

**Pressure\(^1\), 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, %: 8  
- ASTM F36 Recovery, %: 55  
- ASTM F38 Creep Relaxation, %: 15  
- ASTM F152 Tensile, Across Grain, psi (N/mm\(^2\)): 1800 (12)  
- ASTM F1315 Density, lbs./ft.\(^3\) (grams/cm\(^3\)): 105 (1.68)  
- ASTM F433 Thermal Conductivity (K), W/m°K (Btu·in./hr·ft·°F): 0.50-0.60 (3.50-4.15)  
- ASTM D149 Dielectric Properties, range, volts/mil.  
  - Sample conditioning: 1/16"  
  - 3 hours at 250°F: <2  
  - 96 hours at 100% Relative Humidity: -  
- ASTM F586 Design Factors  
  - "m" factor: 6.5  
  - "y" factor, psi (N/mm\(^2\)): 2550 (17.6)  
- ROTT Gasket Constants, 1/16":  
  - Gb=1,591  
  - a=0.239  
  - Gs=9.3

**SEALING CHARACTERISTICS**  
<table>
<thead>
<tr>
<th>Gasket Load, psi (N/mm(^2)):</th>
<th>ASTM F37B – Fuel A</th>
<th>ASTM F37B – Nitrogen</th>
<th>DIN 3535 – Nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 (3.5)</td>
<td>3000 (20.7)</td>
<td>4640 (32)</td>
<td></td>
</tr>
<tr>
<td>Internal Pressure, psig (bar):</td>
<td>9.8 (0.7)</td>
<td>30 (2)</td>
<td>580 (40)</td>
</tr>
<tr>
<td>Leakage</td>
<td>0.3 ml/hr.</td>
<td>0.6 ml/hr.</td>
<td>0.015 cc/min</td>
</tr>
</tbody>
</table>

**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 PxT, consult Garlock Applications Engineering. Minimum temperature rating is conservative.  
\(^2\) 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.