



Garlock 706

MATERIAL PROPERTIES*

| | |
|---|---|
| Color: | White |
| Composition: | Inorganic fibers with a nitrile binder |
| Fluid Services¹: | Saturated and superheated steam ³ |
| Temperature², °F (°C) | |
| Minimum: | -100 (-73) |
| Continuous Max: | +750 (+399) |
| Maximum: | +1000 (+538) |
| Pressure², Maximum, psig (bar): | 1500 (104) |
| P x T (max.)², psig x °F (bar x °C) | |
| 1/32 and 1/16": | 700,000 (25,000) |
| 1/8": | 500,000 (18,500) |
| Meets Specification: | ABS (American Bureau of Shipping) and Fire Safe |

TYPICAL PHYSICAL PROPERTIES*

| | | | |
|-------------------|--|---------------------------------------|---------------------|
| ASTM F36 | Compressibility , range, %: | 7-17 | |
| ASTM F36 | Recovery , %: | 50 | |
| ASTM F38 | Creep Relaxation , %: | 18 | |
| ASTM F152 | Tensile , Across Grain, psi (N/mm ²): | 1400 (9) | |
| ASTM F1315 | Density , lbs./ft. ³ (grams/cm ³): | 105 (1.68) | |
| ASTM F433 | Thermal Conductivity (K) , W/m ² °K (Btu.-in./hr.-ft. ² ·°F): | 0.29-0.38 (2.00-2.65) | |
| ASTM D149 | Dielectric Properties , range, volts/mil. | | |
| | Sample conditioning | 1/16" | 1/8" |
| | 3 hours at 250°F: | 133 | 142 |
| | 96 hours at 100% Relative Humidity: | 25 | 25 |
| ASTM F586 | Design Factors | 1/16" & Under | 1/8" |
| | "m" factor: | 11.4 ⁽⁴⁾ | 22 ⁽⁴⁾ |
| | "y" factor, psi (N/mm ²): | 4800 (33.1) | 6500 (44.8) |
| ROTT | Gasket Constants , 1/16": | Gb=2,455 | a=0.267 Gs=0.622 |
| ASTM F104 | Line Call Out: | F712102A9B4E34K5L501M9 ⁽⁵⁾ | |

SEALING CHARACTERISTICS*

| | ASTM F37B Fuel A | ASTM F37B Nitrogen |
|--|-----------------------------|-------------------------------|
| Gasket Load , psi (N/mm ²): | 500 (3.5) | 3000 (20.7) |
| Internal Pressure , psig (bar): | 9.8 (0.7) | 30 (2) |
| Leakage | 0.5 ml/hr. | 4.0 ml/hr. |

IMMERSION PROPERTIES* - ASTM F146 Fluid Resistance after Five Hours

| | ASTM #1 Oil 300°F (150°C) | ASTM IRM #903 300°F (150°C) | ASTM Fuel A 70-85°F (20-30°C) | ASTM Fuel B 70-85°F (20-30°C) |
|---------------------------------|-------------------------------------|---------------------------------------|---|---|
| Thickness Increase , (%) | 0-10 | 0-15 | 0-15 | 0-20 |
| Weight Increase , (%) | <15 | - | <20 | <20 |
| Tensile Loss , (%) | - | <55 | - | - |

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

¹ See Garlock chemical resistance guide.

² 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.

³ 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, consult Garlock Engineering.

⁴ 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.

⁵ A9: Leakage in Fuel A (Isooctane), Gasket Load = 500psi (3.5N/mm²), Pressure = 9.8psig (0.7bar): Typical = 0.5ml/hr, Max = 1.5ml/hr. M9: Tensile Strength = 1,400psi min. (9.7N/mm² min.).