

Garlock 700

MATERIAL PROPERTIES*

Color:	Green
Composition:	Aramid and inorganic fibers with a nitrile binder
Fluid Services¹:	Water, aliphatic hydrocarbons, oils and gasoline
Temperature², °F (°C)	
Minimum:	-100 (-73)
Continuous Max:	+400 (+205)
Maximum:	+700 (+370)
Pressure², Maximum, psig (bar):	1000 (70)
P x T (max.)², psig x °F (bar x °C)	
1/32 and 1/16":	350,000 (12,000)
1/8":	250,000 (8,600)

PHYSICAL PROPERTIES*

ASTM F36	Compressibility, range, %:	7-17
ASTM F36	Recovery, %:	50
ASTM F38	Creep Relaxation, %:	25
ASTM F152	Tensile, Across Grain, psi (N/mm²):	1500 (10.3)
ASTM F1315	Density, lbs./ft.³ (grams/cm³):	120 (1.9)
ASTM F433	Thermal Conductivity (K), W/m²K (Btu.-in./hr.-ft.².°F):	0.29-0.38 (2.00-2.65)
ASTM D149	Dielectric Properties, range, volts/mil.	
	Sample conditioning	1/32" 1/8"
	3 hours at 250°F:	597 290
	96 hours at 100% Relative Humidity:	<2 <2
ASTM F586	Design Factors	1/16" 1/8"
	"m" factor:	4.0 ⁽⁴⁾ 4 ⁽⁵⁾
	"y" factor, psi (N/mm ²):	2500 (17.2) ⁽⁴⁾ 2500 (17.2) ⁽⁵⁾
ASTM F104	Line Call Out:	F712100A9B4E22K5L501M5 ⁽³⁾

SEALING CHARACTERISTICS*

	ASTM F37B Fuel A	ASTM F37B Nitrogen
Gasket Load, psi (N/mm²):	500 (3.5)	3000 (20.7)
Internal Pressure, psig (bar):	9.8 (0.7)	30 (2)
Leakage	1.0 ml/hr.	2.0 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, (%)	0-5	0-15	0-5	0-10
Weight Increase, (%)	<15	<35	<10	<15

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 A9: Leakage in Fuel A (Isooctane), Gasket Load = 500psi (3.5N/mm²), Pressure = 9.8psig (0.7bar): Typical = 0.4ml/hr, Max = 1.5ml/hr. A9: Leakage in Nitrogen, Gasket Load = 3,000psi (20.7N/mm²), Pressure = 30psig (2bar): Typical = 1.5ml/hr, Max = 2.5ml/hr.

⁴ Actual tests showed 3.7 and 1200psi. These are considered too low for effective flange design.

⁵ Actual tests showed 3.6 and 1150psi. These are considered too low for effective flange design.