Garlock Performance Grade Compressed Gasketing

All Garlock Performance grade products are now available with the revolutionary Flange-Free® anti-stick that can help cut maintenance costs and reduce system downtime. Garlock's Performance Grade gasketing materials are made of a unique blend of aramid fibers, fillers and elastomeric binders that result in improved torque retention and sealability characteristics. www.flangefree.com

Media

3000:	Water, aliphatic hydrocarbons, oils, gasoline
3200/3400:	Saturated steam*, water, and inert gases (3200 meets Mil-G 24696 as requested)
3300:	Water, saturated steam*, oils, fuels, refrigerants
3700:	Water, saturated steam*, and mild chemicals
3760:	Water, aliphatic hydrocarbons, oils, gasoline
5500:	Water, aliphatic hydrocarbons, oils, gasoline, saturated steam*, inert gases and most refrigerants
5700:	Water, saturated steam*, mild chemicals and mild alkalies

Notes:

* Above 150 psig, contact Garlock Engineering.

** Contact Garlock Engineering with specific transfer fluid application.

Value & Benefits

Styles 3000 to 3700

- Available in a variety of elastomers to excel in a wide range of applications
- Excellent sealability characteristics to help dramatically lower emissions levels

3760 (www.multiswell.com)

- More compressible than most standard fiber gaskets
- Seals in "less than ideal" flanges with low load
- Swells in oil and water

5500/5700

- Inorganic fiber gasketing that offers excellent thermal stability with minimal weight loss
- Reduced creep relaxation

Garlock
SEALING TECHNOLOGIES®

an EnPro Industries company

Flange Free™ ANTI-STICK

www.flangefree.com

Typical Physical Properties*

	3000	3200† / 3400[4]	3300[4]	3700[4]	5500 / 5507
Color	Blue	Off-white/ Grey-black	Black	Light grey	Gray/ Sand
Binder	Nitrile (NBR)	SBR	Neoprene (CR)	EPDM	EPDM
Temperature[1] Maximum Minimum Continuous max.	+700°F (+370°C) -100°F (-75°C) +400°F (+205°C)	+700°F (+370°C) -100°F (-75°C) +400°F (+205°C)	+700°F (+370°C) -100°F (-75°C) +400°F (+205°C)	700°F (+370°C) -100°F (-75°C) +400°F (+205°C)	+800°F (+425°C) -100°F (-75°C) +550°F (+290°C)
Pressure, max.[1] psig (bar)	1,000 (70)	1,200 (83)	1,200 (83)	1,200 (83)	1,200 (83)
P x T, max.[1] (psig x °F) 1/32", 1/16" (bar x °C) (0.8mm, 1.6 mm) 1/8" (3.2 mm)	350,000 (12,000) 250,000 (8,600)	350,000 (12,000) 250,000 (8,600)	350,000 (12,000) 250,000 (8,600)	350,000 (12,000) 250,000 (8,600)	400,000 (14,000) 275,000 (9,600)
Sealability (ASTM F37B)[2] **ASTM Fuel A** ml/hr **Nitrogen** ml/hr	 0.2 0.6	 0.1 0.4	 0.2 1.0	 0.1 0.7	 0.1 0.5
Gas Permeability (DIN 3535 Part 4)[3] cc/min.	0.05	0.03	0.08	0.04	0.04
Creep Relaxation (ASTM F38) %	21	18	18	25	20
Compressibility Range (ASTM F36) %	7-17	7-17	7-17	7-17	7-17
Recovery (ASTM F36) %	50	50	50	40	>50
Tensile Strength across grain (ASTM F152) psi (N/mm^2)	2,250 (15)	2,250 (15)	2,250 (15)	2,500 (17)	1,500 (10)
Fluid Resistance (ASTM F146 @ 5 hours) **ASTM #1 Oil** at +300°F (+150°C) Thickness increase % Weight increase % **ASTM IRM #903 Oil** at +300°F (+150°C) Thickness increase % Tensile loss % **ASTM Fuel A at** +70-85°F (+20-30°C) Thickness increase % Weight increase % **ASTM Fuel B** +70-85°F (+20-30°C) Thickness increase % Weight increase %	 0-5 < 8 0-15 < 35 0-5 < 8 0-10 < 15	 0-10 < 20 15-30 < 70 0-15 < 25 5-20 < 30	 0-5 < 15 15-30 < 50 0-10 < 20 5-20 < 20	 20-35 — 60-100 — 10-40 — 20-50 —	 25-40 — 60-90 — 10-30 — 15-35 —
Density 1/16" (1.6 mm) thick lbs/ft^3 (g/cm^3)	100 (1.60)	100 (1.60)	100 (1.60)	100 (1.60)	110 (1.76)

Notes:

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 Engineering.

2 ASTM F37B Sealabiity, milliliters/hour (1/32") thickness ASTM Fuel A (isooctane): Gasket load = 500 psi (3.5 N/mm^2), Internal pressure = 9.8 psig (0.7 bar) Nitrogen: Gasket load = 3,000 psi (20.7 N/mm^2), Internal pressure = 30 psig (2 bar)

3 DIN 3535 Part 4 Gas Permeability, cc/min. (1/16" thick) Nitrogen: Gasket load = 4,640 psi (32 N/mm^2), Internal pressure = 580 psig (40 bar)

4 Saturated steam service guidelines:
- For optimal performance, use thinner gaskets when possible.
- Minimum recommended assembly stress = 4,800 psi.
- Preferred assembly stress = 6,000 psi to 10,000 psi.
- Retorque the bolts/ studs prior to pressurizing the assembly. Never retorque a pressurized assembly.
- If the service is superheated steam, contact Applications Engineering.

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.

* **Values do not constitute specification limits**

All styles are furnished with an anti-stick parting agent as standard.

AUTHORIZED REPRESENTATIVE

2008 RECIPIENT OF ENVIRONMENTAL PROTECTION AGENCY'S CLEAN AIR Excellence Awards

WARNING:
Properties/applications shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult Garlock. Failure to select the proper sealing products could result in property damage and/or serious personal injury.

Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing.

While the utmost care has been used in compiling this brochure, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice.

GARLOCK is a registered trademark for packings, seals, gaskets, and other products of Garlock.

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São Paulo, Brazil	Phone 55.11.4352.6161	Fax 55.11.4352.8181
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