

# Garlock AGRI-GARD™

Garlock AGRI-GARD™ is the new sealing solution for the ethanol industry. Specifically formulated to provide exceptional performance in saturated steam, water, oils and fuels, this product takes the guess work out of gasket selection by handling over 90% of the services found in a process facility. This combined with the industry specific brand make AGRI-GARD™ the most agriculturally friendly material in the marketplace today.



## Specifications

<b>Temperature</b>	Cont. max.*	+550°F (+290°C)
	Minimum	-100°F (-75°C)
	Peak/Spike	+800°F (+425°C)
<b>Pressure</b>	Cont. max.*	1200 psig (83 bar)
<b>P x T, max.**</b>		
1/32" (0.8mm)	1/16" (1.6mm)	400,000 (14,000)
1/8" (3.2 mm)		275,000 (9,600)

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.

\* 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.

\*\* P x T = psig x °F (bar x °C)

## Value & Benefits

- Inorganic fiber gasketing offers excellent thermal stability with minimal weight loss
- Reduced creep relaxation and improved torque retention provide optimal sealability
- Excellent for utility service
  - Water
  - Oil and gasoline
  - Refrigerants
  - Saturated steam

## Ideal for

- Ethanol Production
- Brewing\*
- Food Process\*
- Industrial Machinery
- Bio-Fuels

\*Non FDA Applications

# Garlock

SEALING TECHNOLOGIES®

an EnPro Industries company

# Physical Properties

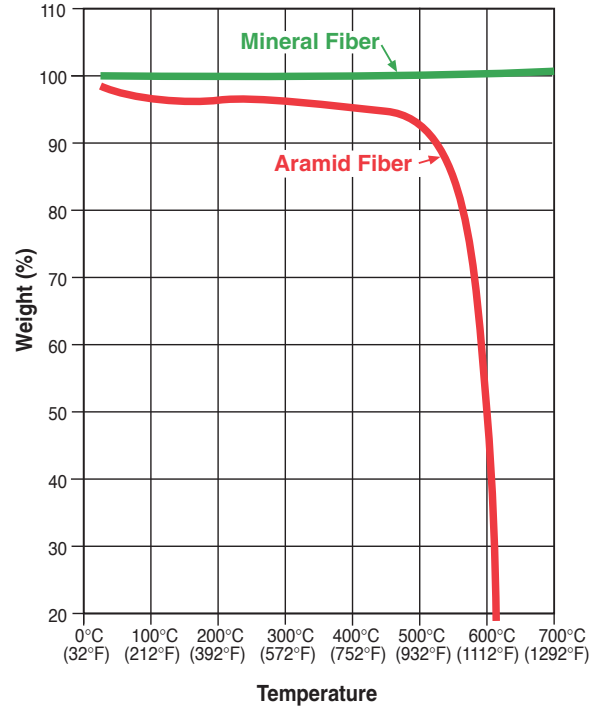
AGRI-GARD™		
<b>Color</b>	Grey	
<b>Binder</b>	Nitrile (NBR)	
<b>M &amp; Y Factors</b>	1/16" M / Y (in psi)	6.6 / 2600
	1/8" M / Y (in psi)	6.6 / 3300
<b>Sealability (ASTM F37B)</b>		
<b>ASTM Fuel A<sup>1</sup></b>	ml/hr	0.2
<b>Nitrogen<sup>2</sup></b>	ml/hr	1.0
<b>Creep Relaxation (ASTM F38)</b>		
	%	15
<b>Compressibility Range (ASTM F36)</b>		
	%	7-17
<b>Recovery (ASTM F36)</b>		
	min. %	50
<b>Tensile Strength across grain (ASTM F152)</b>		
	psi (N/mm <sup>2</sup> )	1500 (10)
<b>Density</b>	lbs/ft <sup>3</sup> (g/cm <sup>3</sup> )	110 (1.76)
<b>Gas Permeability (Nitrogen) (DIN 3535 Part 4)<sup>3</sup></b>		
	cc/min.	0.05

**Notes:**

1. Gasket Load = 500 psi (3.5 N/mm<sup>2</sup>), Internal Pressure = 9.8 psig (0.7 bar)
2. Gasket Load = 3,000 psi (20.7 N/mm<sup>2</sup>), Internal Pressure = 30 psig (2 bar)
3. Gasket Load = 4,640 psi (32 N/mm<sup>2</sup>), Internal Pressure = 580 psig (40 bar)

# Test Results

## Thermo Gravimetric Analysis



# ASTM Line Callouts

Style	Thickness	ASTM Line Callout	A9: Leakage in		K9: Thermal Conductivity
			Fuel A (Isooctane) <sup>1</sup>	Nitrogen <sup>2</sup>	
AGRI-GARD™	1/32" (0.8 mm)	F712100A9B4E23K7M4	Typical: 0.2 ml/hr Max: 1.0 ml/hr	Typical: 0.5 ml/hr Max: 1.5 ml/hr	0.48 W/m <sup>2</sup> K (3.36 btu·in./h·ft <sup>2</sup> ·°F)

# AUTHORIZED REPRESENTATIVE

**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.

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an EnPro Industries company

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