

# Typical Physical Properties\*

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

## Notes:

- 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 Engineering.
- ASTM F37B Sealability, milliliters/hour (1/32") thickness ASTM Fuel A (isooctane): Gasket load = 500 psi (3.5 N/mm<sup>2</sup>), Internal pressure = 9.8 psig (0.7 bar) Nitrogen: Gasket load = 3,000 psi (20.7 N/mm<sup>2</sup>), Internal pressure = 30 psig (2 bar)
- DIN 3535 Part 4 Gas Permeability, cc/min. (1/16" thick) Nitrogen: Gasket load = 4,640 psi (32 N/mm<sup>2</sup>), Internal pressure = 580 psig (40 bar)
- 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.