

Advancing the Science of Sealing™

GARLOCK GYLON® PRODUCTS



Garlock
SEALING TECHNOLOGIES®

an EnPro Industries company

Contents

GYLON® Family History i

Products

Typical Physical Properties 2
Style 3522 2
Style 3591 Gen2™ 3
Style 3594 Gen2™ 3
Styles 3500 to 3510..... 4
Thermally Bonded GYLON® 4
Style 3535 Joint Sealant..... 4
Style 3540 5
Style 3545 5
Styles HP 3560, HP 3561 6
Style 3565 ENVELON®..... 6
Style 3575 Sage 7

Engineering Data

Gasket Installation 8
M & Y Data 8
Gasket Constants 9
ASTM F104 Line Callouts 9
Sheet Sizes 9

GYLON® Family History

When PTFE* was developed in 1938, its importance to industrial sealing was quickly recognized because of its tremendous chemical resistance. While use of PTFE as a gasket material increased in industrial applications, complaints about certain properties started to build: skive marks made initial sealing difficult, cold flow caused leakage and premature failure, and temperature/pressure cycling was a problem.

Resistance to Cold Flow (Creep)

These drawbacks were eliminated when Garlock introduced Fawn GYLON®, Style 3500, in 1967. The GYLON® process minimizes creep and cold flow normally associated with PTFE products, while retaining other positive characteristics of PTFE. Fawn GYLON® was so innovative that it received *Chemical Processing* magazine's Vaaler Award in 1968. As the variety and quantity of industrial chemicals increased, Garlock realized that new products would be required to serve the growing market. Two additional GYLON® styles were introduced to meet those demands: Blue GYLON®, Style 3504, and Off-White GYLON®, Style 3510.

Compressibility

As the diversity of applications grew, so did the types of piping systems. A large number of exotic piping systems was required to handle the many hazardous and corrosive chemicals on the market. A common drawback of these types of piping materials is the small amount of gasket load available before the flange is distorted or cracked. In 1989, Garlock responded to this problem by introducing ENVELON®, another member of the GYLON® family. ENVELON® has a soft material on the gasket / flange interface where compressibility is important, but has a harder core in the middle to prevent media permeation and blowout.

High Pressure Service, Chemical Compatibility

As production demands increased, pipe hammering and/or pressure spikes became more common. GYLON® Series HP 3560 and HP 3561 were designed to meet those extreme conditions. These perforated stainless steel-inserted GYLON® gasket materials outperform any other gasketing available for high pressure service where chemical compatibility is a concern.



* PTFE – polytetrafluoroethylene

Low Bolt Load Sealing

In 1994, Garlock introduced GYLON® Style 3545 for low bolt load applications. It is designed especially to seal pitted, warped or wavy flanges and many non-metallic flanges. Featuring soft, compressible outer layers and a rigid PTFE inner core, Style 3545 is ideal in situations where a rigid gasket is required, such as hard-to-reach piping systems, valves and flanges. The layers of rigid PTFE and microcellular PTFE are sandwiched together using the proprietary GYLON® process, rather than adhesives, for longer gasket life. Style 3545 is so innovative, it received the 1995 Vaaler award from *Chemical Processing* magazine.

Unlimited Sizes and Dimensions

With growing concern over fugitive emissions, the traditional dovetailing method of creating larger sized gaskets no longer meets customer demands. In response, Garlock created the Welded GYLON® process. Welded GYLON® eliminates dovetail leak paths and allows the use of large gaskets without handling problems or premature blowout. Today, GYLON® gaskets can be welded to any size or dimension... another breakthrough for Garlock gasketing!

Unparalleled Reliability and Service

The Garlock family of GYLON® products has evolved over the years with a focus on quality to meet and exceed customer expectations. The use of Employee Involvement, Statistical Process Control, Vendor Assurance Programs, and a continuous improvement philosophy guarantees end users the highest quality products available.

Testing is performed regularly on all styles and thicknesses to ensure the consistency of Garlock quality in GYLON® sheets. Quality American-made products, 41 years of experience, on-time delivery and value-added service programs, all are reasons why the GYLON® family of products has become such a major sealing component in industry today.

There is no doubt that demands will change in the future. But one thing is certain—Garlock will continue to answer those changes and demands with products that are innovative and timely. GYLON®, a name you can trust and a complete family of products to choose from for your gasketing needs.



GYLON® Gasketing

Typical Physical Properties*

GYLON® Styles	3500	3504	3510	3522	3540	3545
Color	Fawn GYLON®	Blue GYLON®	Off-white GYLON®	GYLON® Diaphragm	White GYLON®	White GYLON®
Composition	PTFE with silica	PTFE with glass microspheres	PTFE with barium sulfate	PTFE	Microcellular PTFE	Microcellular PTFE
Temperature ¹ Minimum	-450°F (-268°C)	-450°F (-268°C)	-450°F (-268°C)	+500°F (+260°C)	-450°F (-268°C)	-450°F (-268°C)
Cont. max.	+500°F (+260°C)	+500°F (+260°C)	+500°F (+260°C)		+500°F (+260°C)	+500°F (+260°C)
Pressure, psig Cont. max. ¹ (bar)	1,200 (83)	800 (55)	1,200 (83)	Consult Engineering	1,200 (83)	1,200 (83)
P x T, max. ¹ 1/32", 1/16" (0.8 mm, 1.6 mm)	350,000 (12,000)	350,000 (12,000)	350,000 (12,000)	—	350,000 (12,000)	350,000 (12,000)
psig x °F 1/8" (bar x °C) (3.2 mm)	250,000 (8,600)	250,000 (8,600)	250,000 (8,600)		250,000 (8,600)	250,000 (8,600)
Sealability						
ASTM Fuel A ml/hr (ASTM F37B) ³	0.22	0.12	0.04	—	0.25	0.15
Gas Permeability cc/min. (DIN 3535 Part 4) ⁴	< 0.015	< 0.015	< 0.015	—	< 0.015	< 0.015
Creep Relaxation % (ASTM F38)	18	40	11	35	10	15
Compressibility Range (ASTM F36) %	7-12	25-45	4-10	20-25	70-85	60-70
Recovery % (ASTM F36)	>40	>30	>40	>50	>8	>15
Tensile Strength psi (ASTM D1708) (N/mm ²)	2,000 (14)	2,000 (14)	2,000 (14)	5,000 (34)	—	—
Flammability	Will not support flame					
Bacterial Growth	Will not support					

Notes:

¹ Based on ANSI RF flanges at our preferred torque. When approaching maximum pressure, temperature or 50% of maximum P x T, consult Garlock Engineering. For Styles HP 3560 and HP 3561, consult Garlock if approaching maximum temperature, or 50% of maximum pressure or P x T.

² For 3565, HP 3560 and HP 3561, 1/16" thickness only; for 3535, 1/4" thickness only.

³ ASTM F37B Sealability, milliliters/hour (1/32" thick)
ASTM Fuel A (isooctane):

Gasket load = 1,000 psi (7 N/mm²),
Internal pressure = 9.8 psig (0.7 bar)

⁴ DIN 3535 Part 4 Gas Permeability, cc/min. (1/16" thick)
Nitrogen: Internal pressure = 580 psig (40 bar),
Gasket load = 4,640 psi (32 N/mm²)

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, except Style 3565, based on 1/16" (1.6mm).

* Values do not constitute specification limits

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.

	HP 3560	HP 3561	3565	3575	3591	3594
	Fawn inserted GYLON®	Off-white inserted GYLON®	ENVELON® GYLON®	Sage GYLON®	Gold Gen2™ GYLON®	Green Gen2™ GYLON®
	GYLON® with perforated 316LSS insert	GYLON® with perforated 316LSS insert	PTFE with glass	PTFE with inorganic filler	PTFE with barium sulfate microspheres	PTFE with glass filler
	— — +500°F (+260°C)	— — +500°F (+260°C)	-450°F (-268°C) +500°F (+260°C)	-450°F (-268°C) +500°F (+260°C)	-450°F (-268°C) +500°F (+260°C)	-450°F (-268°C) +500°F (+260°C)
	2,500 (172)	2,500 (172)	1,200 (83)	1,200 (83)	1,200 (83)	800 (55)
	700,000 (25,000) 450,000 (15,000)	700,000 (25,000) 450,000 (15,000)	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)
	0.2 ²	0.1 ²	0.33 ²	0.2 ²	0.20	0.50
	< 0.015 ²	< 0.015 ²	< 0.015 ²	< 0.015 ²	< 0.015	< 0.015
	20 ²	20 ²	35 ²	15 ²	35	30
	4-9 ²	3-7 ²	35-50 ²	5-10 ²	15-25	10-20
	>45 ²	>50 ²	>35 ²	>40 ²	>40	>45
	5,000 ² (34)	5,000 ² (34)	1,800 ² (13)	2,000 ² (14)	2,000 (14)	2,000 (14)
	Will not support flame					
	Will not support					



Questions? Call Gasket Applications Engineering at 1-800-448-6688.

Test Data



Before

Compression at 2,000 psi (14 N/mm²)
for 1 hour at 500°F (260°C)

After

◀ Note the uneven cold flow shown by conventional PTFE.

GYLON®

Styles 3500 to 3510

Benefits

Tighter seal

- Improved performance over conventional PTFE
- Reduced product loss and emissions

Reduced creep relaxation

- Unique manufacturing process minimizes cold flow problems typical of skived and expanded PTFE sheets
- Excellent bolt torque retention

Chemical resistance

- Withstands a wide range of chemicals for extended service life in a wide variety of applications

Cost savings

- Cuts operational costs through reduced:
 - Fluid loss
 - Energy consumption
 - Maintenance costs
 - Inventory costs
 - Waste

Largest sheet sizes*

- Offers some of the largest sheet sizes in the industry
- Improved material utilization reduces waste

Branding and color coding

- Easy identification of superior GYLON® products
- Reduces misapplication and use of unauthorized, inferior substitutes

* 60" x 60" (1524 mm x 1524 mm), 70" x 70" (1778 mm x 1778 mm), 60" x 90" (1524 mm x 2286 mm)

Media

GYLON® 3500: Strong acids (except hydrofluoric), solvents, hydrocarbons, water, steam, chlorine, and cryogenics. Conforms to FDA regulations. (For oxygen service, specify "Style 3502 for oxygen service.")

GYLON® 3504: Moderate concentrations of acids and some caustics, hydrocarbons, solvents, water, refrigerants, and cryogenics. Conforms to FDA regulations. (For oxygen service, specify "Style 3505 for oxygen service.")

GYLON® 3510: Strong caustics, moderate acids, chlorine, gases, water, steam, hydrocarbons, and cryogenics. Conforms to FDA regulations. (For oxygen service, specify "Style 3503 for oxygen service.")

Thermally Bonded GYLON®

Benefits

Effective seal

- Patented bonding process produces large gaskets without dovetailed joints that permit leakage
- GYLON® material provides the excellent chemical resistance of PTFE without creep relaxation and cold flow problems

Versatile

- Ideal for corrosive applications with extra-large flanges
- Styles 3500, 3504, 3510, 3540, HP 3560, HP 3561, 3565, 3575, 3591 and 3594 can all be welded using this process

Style 3535 Joint Sealant

Benefits

Chemical resistance

- Pure PTFE is chemically inert, withstands a wide range of chemicals
- Conforms to FDA regulations

Easy to install

- Continuous length on spools is easily cut and formed
- Strong adhesive backing aids installation on narrow or hard-to-reach flanges
- Available in widths from 1/8" to 1"

Typical Physical Properties

Sealability	(ASTM F37B) ¹	ml/hr	0.1
Gas Permeability	(DIN 3535 Part 4) ²	cc/min.	0.05
Temperature	-450°F (-268°C) to 500°F (260°C)		
Pressure	800 psig max.		

Notes:

- ASTM F37B Sealability, milliliters/hour (1/4" thick)
ASTM Fuel A (isooctane):
Gasket load: 3,000 psi (20.7 N/mm²), Internal pressure: 30 psig (2 bar)
- DIN 3535 Part 4 Gas Permeability, cc/min. (1/4" thick)
Nitrogen:
Internal pressure: 580 psig (40 bar), Gasket load: 4,640 psi (32 N/mm²)

GYLON® Style 3545

Benefits



Tighter seal

- Highly compressible PTFE outer layers seal under low bolt load—suitable for many flat face and glass-lined flanges*
- Compressible layers conform to surface irregularities, especially on warped, pitted or scratched flanges
- Rigid PTFE core reduces cold flow and creep normally associated with conventional PTFE gaskets

Excellent chemical compatibility

- Pure PTFE withstands a wide range of chemicals

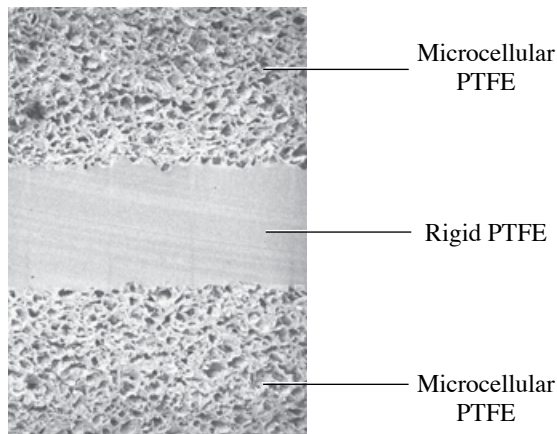
Easy to cut and install

- Soft PTFE can be cut easily from larger sheets, reducing inventory costs and expensive downtime
- Rigid PTFE core facilitates installation, especially on large diameter flanges and hard-to-reach areas

GYLON® Style 3540

- Pure microcellular PTFE
- Similar to Style 3545, but without rigid core
- Ideal for wavy, warped, pitted, or scratched flanges, and for many types of flat face flanges*

Configuration



*Cross-sectional view under electron microscope
All layers manufactured using proprietary GYLON® process—thermally fused layers, without the use of adhesives*

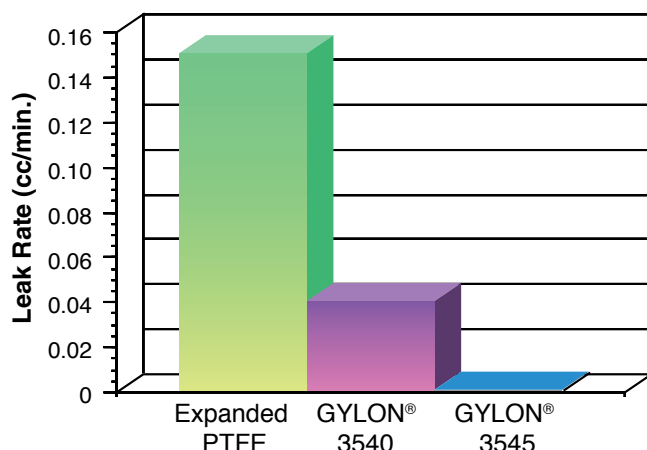
Media

GYLON® 3540: Strong caustics, strong acids, hydrocarbons, chlorine, and cryogenics. Conforms to FDA regulations.

GYLON® 3545: Strong caustics, strong acids, hydrocarbons, chlorine, cryogenics and glass-lined equipment. Conforms to FDA regulations.

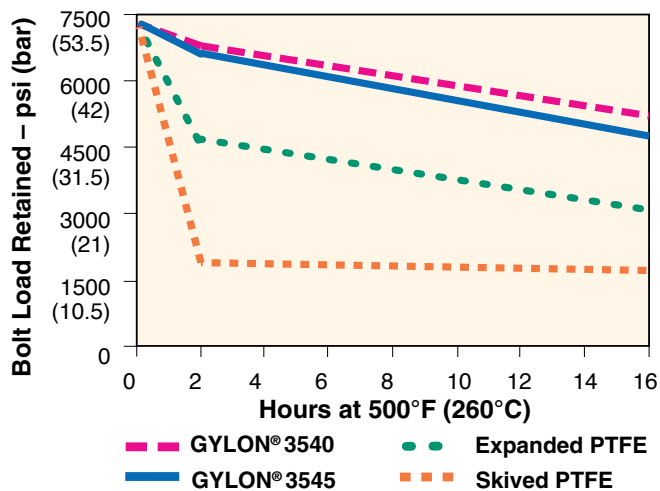
Test Results

DIN 3535 Gasket Permeation Test



Note the dramatically reduced leakage of GYLON® 3540 and 3545. Average of three tests, using 580 psig nitrogen with 4,640 psi gasket load according to DIN 3535 requirements. All samples 1/16" (1.6 mm) thick.

DIN 52913 Gasket Bolt Load vs. Time



High bolt load retention of GYLON® 3540 and 3545, especially at high temperatures, indicates gasket is less likely to incur gross leakage (blowout).

* For flat face flanges, a minimum compressive stress of 1,500 psi (103 N/mm²) is recommended on the contacted gasket area for 150 psig (10.3 N/mm²) liquid service. Consult with the flange manufacturer to confirm that adequate compressive stress is available.

GYLON® Styles HP 3560 / HP 3561

Benefits

Tight seal

- Perforated stainless steel core increases resistance to pressure fluctuations and thermal cycling
- GYLON® offers superior cold flow and creep resistance, eliminating the need for frequent retorquing

Chemical resistance

- Seals aggressive chemicals in hostile environments where safety or blowout resistance is crucial*

GYLON® Style 3565 ENVELON® Gasketing**

Benefits

Tighter seal

- Soft, deformable exterior conforms to surface irregularities; ideal for worn, warped or pitted flanges
- Stable blue core improves cold flow resistance
- Low bolt load requirements ensure a tight seal on glass-lined or wavy flanges†
- Direct sintering of GYLON® layers prevents leak paths and adhesive contamination

Easy to install

- Unitized construction avoids jacket foldover
- Rigid core facilitates installation of large gaskets

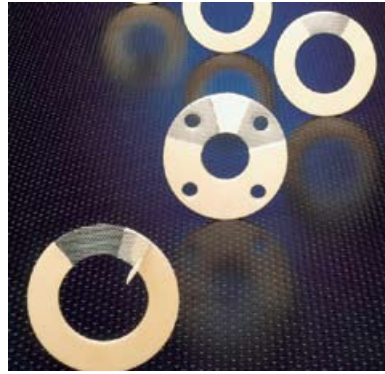
Minimizes inventory

- Custom-cut gaskets from large sheets offer convenience while reducing costly inventory buildup
- Ideal replacement for slit, milled, formed shield and double jacketed envelope gaskets†

* Consult Garlock Applications Engineering when using flanges in pressure classes above 300 lbs.

** Patents #4,961,891; #4,900,629

† When sealing uneven flanges, gasket must be four times thicker than maximum gap between flanges.

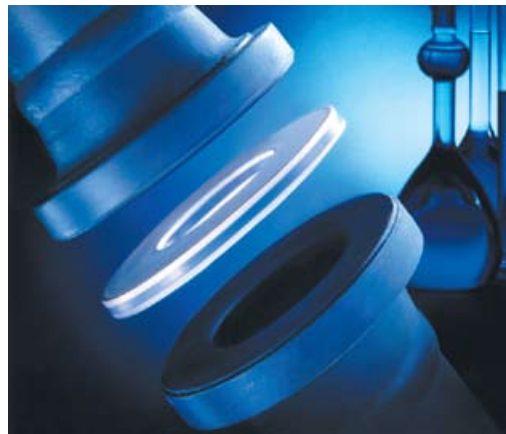


Media

HP 3560: Strong acids (except hydrofluoric), solvents, hydrocarbons, water, steam, chlorine, and cryogenics (For oxygen service, specify "HP 3562 for oxygen service.")

HP 3561: Strong caustics, moderate acids, chlorine, gases, water, steam, hydrocarbons, and cryogenic (For oxygen service, specify "HP 3563 for oxygen service.")

**Style 3565:
ENVELON®** Moderate concentrations of acids and caustics, hydrocarbons, solvents, cryogenics, and glass-lined equipment. Conforms to FDA regulations.



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.

Sage GYLON® Style 3575

The next level in high performance PTFE gasketing.

For over 40 years GYLON® has been the material of choice for the chemical process industry. And now we've added a brand new product to the GYLON® portfolio. Reliable and durable Sage GYLON® gaskets are made from a high performing PTFE material that will hold up to the hazardous chemicals that you work with every day.

Benefits

- Improved load retention provides prolonged service life in thermal cycling applications
- Excellent permeation resistance means reduced process emissions
- Superior chemical resistance
- Made to order in any size (including thermally bonded gaskets)
- Available in 1/16" and 1/8" thicknesses

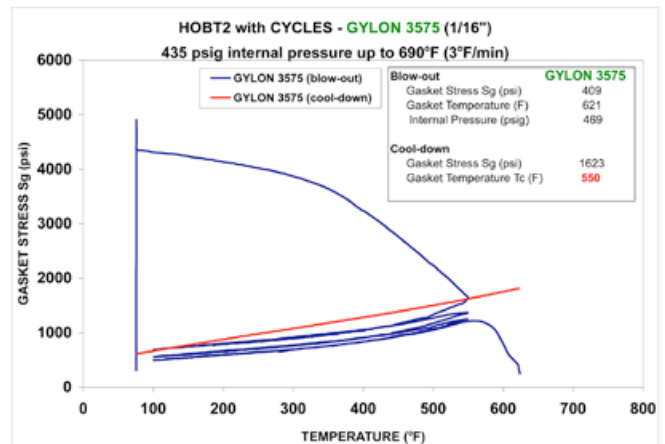
Media

Strong acids, strong caustics, aromatic and aliphatic hydrocarbons, heat transfer fluids, steam and refrigerants

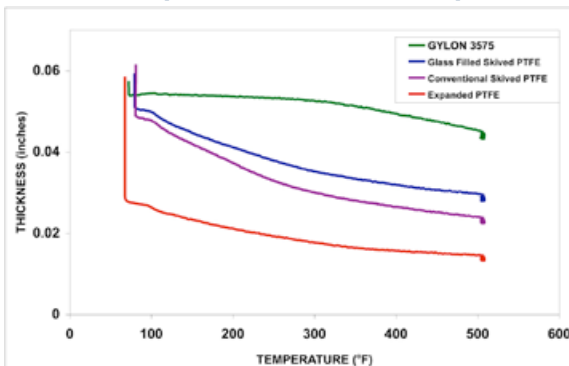
(See pages 8 and 9 for design factors, ROTT gasket constants & ASTM F104 line callout)



HOB2 Test with Cycles (1/16")



Hot Compression @ 500°F, 3750 psi (1/16")



Questions? Call Gasket Applications Engineering at 1-800-448-6688.



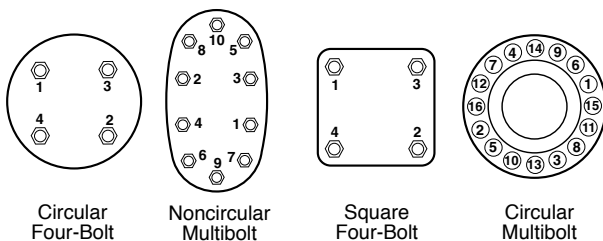
Before Installation

- Remove old gasket, and clean flange surface of all debris. For best results, use a metal flange scraper, an aerosol gasket remover and a wire brush, then inspect the flange for damage. Be sure surface finish and flatness are satisfactory.
- Use the thinnest possible gasket. However, flanges that are warped, bowed or severely pitted require thicker gaskets.
- Whenever possible, use ring gaskets. Full face gaskets have more surface area, requiring additional compressive load on the gasket.
- Use dry anti-seize, rather than wet. Talc is best, while graphite and mica are also acceptable. Never use metal-based anti-seize, since particles may accumulate in the surface imperfections, thereby creating a flange surface that is too smooth to be effective.

Installation

- Center the gasket on the flange. This is extremely vital where raised faces are involved.
 Note: Standard ANSI ring gaskets, when properly cut, should center themselves when the bolts are in place.
- Use a torque wrench and well-lubricated fasteners with hardened flat washers to ensure correct initial loading.
- Tighten bolts to compress gasket uniformly. This means going from side to side around the joint in a star-like crossing pattern. See Figure 3 below.
- All bolts should be tightened in one-third increments, according to proper bolting patterns.
- Retorque 12 to 24 hours after start-up, whenever possible. All applicable safety standards including lockout/tagout procedure should be observed.
- Never use liquid or metallic based anti-stick or lubricating compounds on the gaskets. Premature failure could occur as a result.

Figure 3: Correct Bolting Patterns



"M" and "Y" Data

"M" and "Y" data are to be used for flange designs only as specified in the ASME Boiler and Pressure Vessel Code Division 1, Section VIII, Appendix 2. They are not meant to be used as gasket seating stress values in actual service. Our bolt torque tables give that information and should be used as such.

"M" - Maintenance Factor

A factor that provides the additional preload needed in the flange fasteners to maintain the compressive load on a gasket after internal pressure is applied to a joint. The net operating stress on a pressurized gasket should be at least (m) x (design pressure, psi).

"Y" - Minimum Design Seating Stress

The minimum compressive stress in pounds per square inch (or bar) on the contact area of the gasket that is required to provide a seal at an internal pressure of 2 psig (0.14 bar).

Style	Thickness	M	Y (psi)
3500	1/16"	5.0	2,750
	1/8"	5.0	3,500
3504	1/16"	3.0	1,650
	1/8"	2.5	3,000
	3/16"	2.5	3,000
	1/4"	2.5	3,000
3510	1/16"	2.0	2,350
	1/8"	2.0	2,500
3530	1/16"	2.8	1,650
	1/8"	2.0	1,650
3535	1/4"	2.0	3,000
3540	1/16"	3.0	1,700
	1/8"	3.0	2,200
	3/16"	2.0	2,200
	1/4"	2.0	2,500
3545	1/16"	2.6	1,500
	1/8"	2.0	2,200
	3/16"	2.0	2,200
	1/4"	7.0	3,700
	(in envelope) 1/8"	2.0	800
HP 3560	1/16"	5.0	3,500
	1/8"	5.0	4,000
HP 3561	1/16"	5.0	3,500
	1/8"	5.0	4,000
3565	1/16"	2.8	1,400
	1/8"	3.7	2,300
	3/16"	5.5	2,800
	1/4"	6.0	2,800
3575	1/16"	2.1	2,000
	1/8"	2.1	2,500
3591	1/16"	4.3	1,650
	1/8"	2.0	1,650
3594	1/16"	3.0	1,650
	1/8"	3.0	2,500

Gasket Constants

Style	Thickness	Gb	a	Gs	S100	S1000	S3000	S5000	S10000	Tpmin	Tpmax
3500	1/16"	949	0.253	2.60E+00	3,043	5,448	7,194	8,187	9,756	373	16,890
	1/8"	1980	0.169	3.93E-01	4,313	6,365	7,663	8,354	9,393	223	25,375
3504	1/16"	183	0.357	4.01E-03	947	2,155	3,190	3,828	4,903	3,097	14,817
	1/8"	1008	0.221	2.23E+00	2,793	4,649	5,928	6,638	7,739	141	72,992
3510	1/16"	289	0.274	6.61E-11	1,021	1,918	2,592	2,981	3,605	11,881	25,501
	1/8"	444	0.332	1.29E-02	2,048	4,399	6,336	7,507	9,449	1,770	17,550
3535	3/8"	430	0.286	1.69E-09	1,605	3,101	4,245	4,913	5,991	373	
3540	1/16"	550	0.304	7.64E-01	2,230	4,491	6,272	7,326	9,044	973	23,670
3545	1/16"	162.1	0.379	1.35E-09	927	2,217	3,361	4,079	5,303	18,209	61,985
	1/8"	92.48	0.468	2.50E-03	799	2,349	3,930	4,992	6,907	4,460	53,307
	3/16"	628	0.249	7.93E-05	1,977	3,507	4,611	5,236	6,222	373	
3561	1/16"	72.3	0.466	2.16E-01	618	1,808	3,016	3,827	5,286	1,688	21,755
3575	1/16"	205	0.393	7.08x10 ⁻¹²	1,251	3,090	4,756	—	7,630	3,622	21,379
3591	1/16"	35	0.582	1.90E-04	517	1,975	3,745	5,041	7,547	1,410	29,194
3594	1/16"	151	0.41	1.64E-05	998	2,564	4,023	4,961	6,591	10,318	41,724
	1/8"	66	0.523	4.98E-06	739	2,462	4,373	5,712	8,208	6,308	24,174

Gb = stress at which seal is initiated; "a" = the slope of the log/log tightness curve; Gs = intersection of the unload curve with the vertical axis (Tp1).

Note: For a 5" OD gasket at 800 psig, Tp100 = 102ml/min. leakage, Tp1,000 = 1.02ml/min. leakage, Tp10,000 = 0.01 ml/min. leakage.

ASTM F104 Line Callouts

GYLON® Style ⁶	ASTM Line Callout	Fourth Numeral 9: % Increase in IRM Oil #903	Fifth Numeral 9: % Increase in IRM Oil #903	Sixth Numeral 9: % Increase in Water	A9: Leakage in Fuel A (Isooctane) ⁷	E99: % Increase in ASTM Fuel B
3500	F451999A9B1E99K6M6	Thickness: 1.0% max.	Weight: 2.0% max.	Weight: 1.0% max.	Typical: 0.22 ml/hr Max: 1.0 ml/hr	Weight: 2.0% max. Thickness: 1.0% max.
3504	F456999A9B7E99K3M6	Thickness: 1.0% max.	Weight: 2.0% max.	Weight: 1.0% max.	Typical: 0.12 ml/hr Max: 1.0 ml/hr	Weight: 2.0% max. Thickness: 1.0% max.
3510	F451999A9B2E99K5M6	Thickness: 1.0% max.	Weight: 2.0% max.	Weight: 1.0% max.	Typical: 0.04 ml/hr Max: 1.0 ml/hr	Weight: 2.0% max. Thickness: 1.0% max.
3540 ⁵	F419000A9B2	—	—	—	Typical: 0.25 ml/hr Max: 1.0 ml/hr	—
3545 ⁵	F419000A9B3	—	—	—	Typical: 0.15 ml/hr Max: 1.0 ml/hr	—
HP 3560 ⁸	F451999A9B1E99K6M6	Thickness: 1.0% max.	Weight: 2.0% max.	Weight: 1.0% max.	Typical: 0.22 ml/hr Max: 1.0 ml/hr	Weight: 2.0% max. Thickness: 1.0% max.
HP 3561 ⁸	F451999A9B2E99K5M6	Thickness: 1.0% max.	Weight: 2.0% max.	Weight: 1.0% max.	Typical: 0.04 ml/hr Max: 1.0 ml/hr	Weight: 2.0% max. Thickness: 1.0% max.
3565	F457999A9B6E99M6	Thickness: 1.0% max.	Weight: 2.0% max.	Weight: 1.0% max.	Typical: 0.33 ml/hr Max: 1.0 ml/hr	Weight: 2.0% max. Thickness: 1.0% max.
3575	F451111A9B3E11M6	—	—	—	Typical: 0.25 ml/hr Max: 1.0 ml/hr	—
3591	F454111A9B9E11M6	—	—	—	Typical: 0.20 ml/hr Max: 1.0 ml/hr	—
3594	F453111A9B5E11M6	—	—	—	Typical: 0.50 ml/hr Max: 1.0 ml/hr	—

⁵ Third numeral 9: F36 Compressibility: 3540: 70-85%, and 3545: 60-70%.

⁶ For Styles 3500 thru 3545, thickness is 1/32"; for Styles 3560-3575, thickness is 1/16".

⁷ Gasket load = 1,000 psi (7.0 N/mm²); internal pressure = 9.8 psig (0.7 bar).

⁸ F868 Line callout = OFMF9: 9 = Perforated stainless steel.

Sheet Sizes

	60" x 60"					70" x 70"				60" x 90"			40" x 40"			24" x 24"	
	1/32"	1/16"	1/8"	3/16"	1/4"	1/32"	1/16"	1/8"	1/4"	1/32"	1/16"	1/8"	1/32"	1/16"	1/8"	1/16"	1/8"
Style 3500	■	■	■	■	■		■	■			■	■					
Style 3504		■	■	■	■		■	■	■		■	■	■				
Style 3510	■	■	■	■	■		■	■			■	■					
Style 3530		■	■										■	■	■		
Style 3540		■	■	■	■		■	■			■	■					
Style 3545		■	■	■	■		■	■			■	■					
Style HP-3560																■	■
Style HP-3561																■	■
Style 3565		■	■	■	■		■	■	■		■	■					

More than just great products...

Beyond offering you the widest available range of products for packing and sealing, Garlock enhances the value of its products with technical services and comprehensive training programs:

- ISO 9001:2000 registration for Industrial Gasketing, Industrial Packing, KLOZURE® Oil Seals, Bearing Protectors, and Mechanical Seals, Expansion Joints, Hydraulic Components, and Industrial Rubber Products.
- A global network of stocking Authorized Garlock Distributors.
- Factory sales representatives and applications engineers available for problem solving when and where it is needed.
- Toll-free 800 telephone and fax numbers for immediate product information.
- In-plant surveys of equipment and processes, providing the customer with recommendations to identify and eliminate sealing and packing problems before they start.
- The most sophisticated and most comprehensive test facilities available.
- Technical field seminars on all Garlock products.
- Factory-sponsored product training programs, including hands-on seminars, to ensure that Garlock representatives and their distributor personnel are the best in the industry.
- Technical Bulletins to keep you up-to-date on product enhancements and changes.

Customers who specify Garlock fluid sealing products get, at no extra cost, the high quality support needed to run a profitable operation.

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.

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

© Garlock Inc 2008. All rights reserved worldwide.

Garlock
SEALING TECHNOLOGIES®

an EnPro Industries company

Garlock Sealing Technologies
1666 Division Street
Palmyra, New York 14522 USA
1-315-597-4811
1-800-448-6688
Fax: 1-800-543-0598
1-315-597-3039

www.garlock.com

Other Garlock facilities are located in:

Columbia, SC, USA	Phone 1.803.783.1880	Fax 1.803.783.4279
Houston, TX, USA	Phone 1.281.840.4800	Fax 1.281.840.4756
Sydney, Australia	Phone 61.2.9793.2511	Fax 61.2.9793.2544
São Paulo, Brazil	Phone 55.11.4352.6161	Fax 55.11.4352.8181
Sherbrooke, Canada	Phone 1.819.563.8080	Fax 1.819.563.5620
W. Yorkshire, England	Phone 44.1422.313600	Fax 44.1422.313601
Saint-Étienne, France	Phone 33.4.7743.5100	Fax 33.4.7743.5151
Neuss, Germany	Phone 49.2131.3490	Fax 49.2131.349.222
Mexico City, Mexico	Phone 52.55.50.78.46.00	Fax 52.555.368.0418
Singapore	Phone 65.6285.9322	Fax 65.6284.5843
Shanghai, China	Phone 86.021.62789702	Fax 86.021.62787826
Dubai, UAE	Phone 971.4.8833652	Fax 971.4.8833682
Pune, India	Phone 91.20.3061.6608	Fax: 91.20.3061.6699