

Featuring
Style 3545
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GARLOCK GYLON® PRODUCTS

The PTFE gasket material that revolutionized the industry



Garlock

SEALING TECHNOLOGIES®

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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, 34 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	3530	3540	3545	3565
Color	Fawn with black brand	Blue with black brand	Off-white with black brand	Black with no brand	White with black brand	White with black brand	White and blue w/black brand
Composition	PTFE with silica	PTFE w/ glass microspheres	PTFE with barium sulfate	PTFE with graphite	Microcellular PTFE	Microcellular PTFE	PTFE w/ glass microspheres
Sealability							
ASTM Fuel A ml/hr (ASTM F37B) ⁴	0.22	0.12	0.04	0.02	0.25 ³	0.15 ³	0.33
Gas Permeability cc/min. (DIN 3535 Part 4) ⁵	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015 ³	< 0.015 ³	< 0.015
Creep Relaxation % (ASTM F38)	18	40	11	29	10 ³	15 ³	35
Compressibility Range (ASTM F36)							
%	7-12	25-45	4-10	7-17	70-85 ³	60-70 ³	35-50
Recovery min. % (ASTM F36)	40	30	40	40	8 ³	15 ³	35
Tensile Strength psi (ASTM D1708) (N/mm ²)	2000 (14)	2000 (14)	2000 (14)	3000 (21)	—	—	1800 (13)
Flammability	Will not support flame						
Bacterial Growth	Will not support						

GYLON® Styles	3500, 3504, 3510, 3530, 3535, 3540, 3545, 3565	HP 3560 HP 3561
Temperature ¹		
Cont. max.	+500°F (+260°C)	+500°F (+260°C)
Minimum	-450°F (-268°C)	—
Pressure, Cont. max. ¹	1200 ² (83)	2500 (172)
P x T, max. ¹		
1/32", 1/16" (0.8 mm, 1.6 mm)	350,000 ³ (12,000)	700,000 ³ (25,000)
psig x °F (bar x °C)	250,000 (8,600)	450,000 (15,000)

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

Notes:

- When approaching maximum pressure or 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.
- Except 3504 and 3535: 800 psi (55 bar).
- For 3540, 3545, HP 3560, HP 3561, 1/16" thickness only; for 3535, 1/4" thickness only.

GYLON® Styles	HP 3560	HP 3561
Color	Fawn with black brand	Off-white with black brand
Composition	GYLON® with perforated 316L stainless steel insert	
Sealability (ASTM F37B) ⁴		
ASTM Fuel A ml/hr	0.02	0.01
Gas Permeability cc/min. (DIN 3535 Part 4) ⁵	< 0.015	< 0.015
Creep Relaxation % (ASTM F38)	20	20
Compressibility Range % (ASTM F36)	4-9	3-7
Recovery min. % (ASTM F36)	45	50
Tensile Strength psi (ASTM D1708) (N/mm ²)	5000 (34)	5000 (34)
Flammability	Will not support flame	
Bacterial Growth	Will not support	

⁴ ASTM F37B Sealability, milliliters/hour (1/32" thick) ASTM Fuel A (isooctane):

Gasket load = 1000 psi (7 N/mm²),
Internal pressure = 9.8 psig (0.7 bar)

⁵ DIN 3535 Part 4 Gas Permeability, cc/min. (1/16" thick) Nitrogen: Internal pressure = 580 psig (40 bar),
Gasket load = 4640 psi (32 N/mm²)

GYLON[®] Gasketing

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, cryogenics

(For oxygen service, specify "Style 3502 for oxygen service.")

GYLON[®] 3504: Moderate concentrations of acids and some caustics, hydrocarbons, solvents, water, refrigerants, cryogenics, hydrogen peroxide

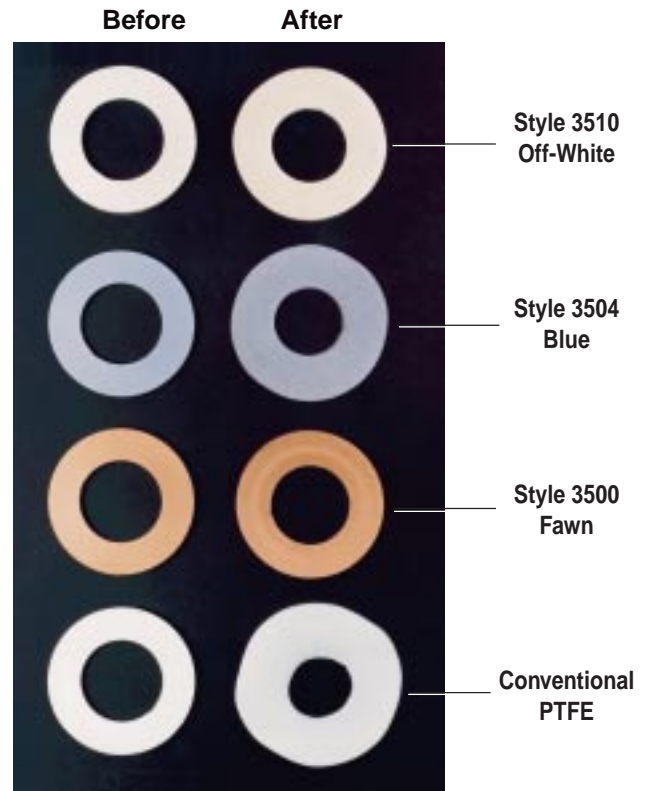
(For oxygen service, specify "Style 3505 for oxygen service.")

GYLON[®] 3510: Strong caustics, moderate acids, chlorine, gases, water, steam, hydrocarbons, cryogenics and aluminum fluoride

(For oxygen service, specify "Style 3503 for oxygen service.")

Test Data

Compression at 2000 psi (14 N/mm²) for 1 hour at 500°F (260°C)



Note the uneven cold flow shown by conventional PTFE.



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

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GYLON® Style 3545

Benefits



Tighter seal

- Highly compressible PTFE outer layers seal under low bolt load—suitable for many non-metallic 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

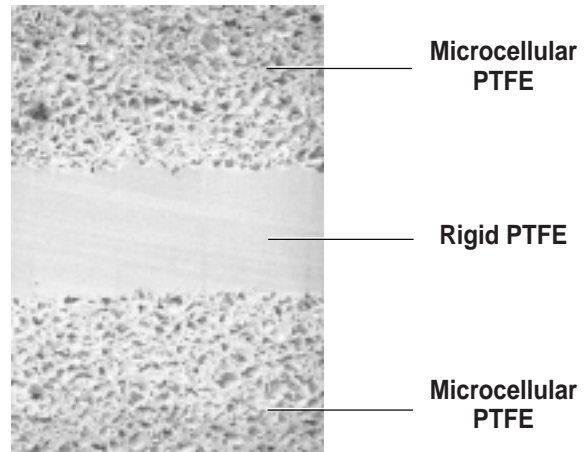
Easy to cut and install

- 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 non-metallic* flanges

Configuration



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

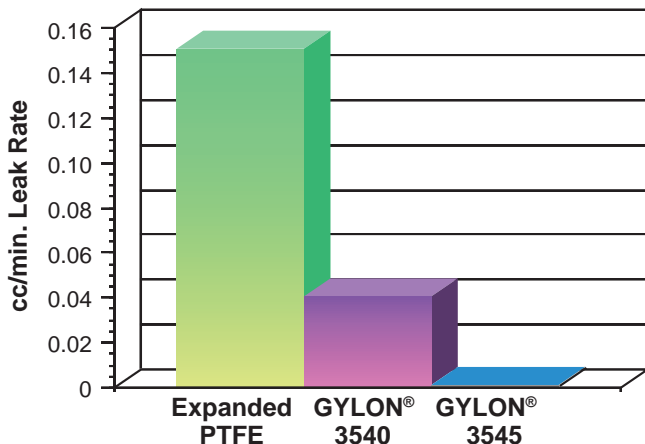
Media

- GYLON® 3540:** Strong caustics, strong acids, hydrocarbons, chlorine, cryogenics, glass-lined equipment
- GYLON® 3545:** Strong caustics, strong acids, hydrocarbons, chlorine, cryogenics, glass-lined equipment, plastic piping,* low bolt load applications

* For PVC and FRP flanges, a minimum compressive stress of 2400 psi (166 bar) is recommended on the contacted gasket area for 150 psig (10.4 bar) liquid service. Consult with the flange manufacturer to confirm that adequate compressive stress is available.

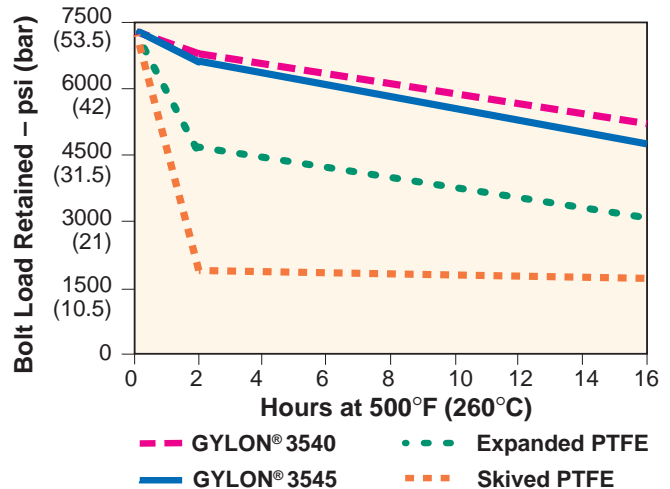
Test Results

Figure 1: DIN 3535 Gasket Permeation Test



Note the dramatically reduced leakage of GYLON® 3540 and 3545. Average of three tests, using 580 psig nitrogen with 4640 psi gasket load according to DIN 3535 requirements. All samples 1/16" (1.6 mm) thick.

Figure 2: 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).

Styles HP3560 / HP3561

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
- Excellent replacement for metal-inserted envelope gaskets, PTFE-filled spiral wounds and wire-inserted asbestos gaskets in many applications*

Chemical resistance

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

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

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

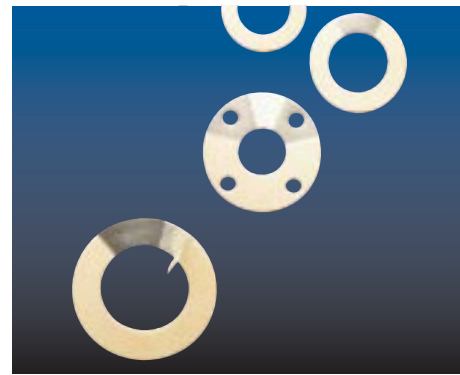
- Unitized construction avoids jacket foldover
- Rigid core facilitates installation of large gaskets

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 †

* 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 "HP3562 for oxygen service.")

HP 3561: Strong caustics, moderate acids, chlorine, gases, water, steam, hydrocarbons, cryogenics, and aluminum fluoride
(For oxygen service, specify "HP3563 for oxygen service.")

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



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STRESS SAVER®



Typical Physical Properties

STRESS SAVER®†		Style 370	Style 6800
Construction		100% Pure PTFE bonded to EPDM	EPDM only (65 durometer)
Color		PTFE: Sky blue	EPDM: Off-white
Temperature	Max.	+300°F (+150°C)	+300°F (+150°C)
	Min.	-40°F (-40°C)	-40°F (-40°C)
Pressure, max	psig	250	250
	(bar)	(17)	(17)
P x T, max. (psig x °F)		50,000	50,000
		(1717)	(1717)

† Also available in fluoroelastomer, Style 9580. Contact Garlock.

GYLON® Style 3530

Benefits

Tighter seal

- Graphite-filled PTFE offers extremely low void content for minimal emissions

Chemical resistance

- Black GYLON® delivers long service against volatile hazardous pollutants (VHAP and VOC)
- Withstands high concentrations of hydrofluoric acids and other glass-dissolving media

Media

Monomer service, cryogenics, highly concentrated hydrofluoric acid, volatile hazardous air pollutants (VHAP)

Benefits

Tighter seal

- Raised, molded-in sealing rings seal with 75% less surface area for high performance in non-metallic flanges†

Chemical resistance

- Pure PTFE sealing surface resists many chemicals

High purity

- Contaminant-free EPDM is ideal for pure service—electronics,* pharmaceutical and food industries**
- Proprietary process bonds PTFE to elastomer, won't delaminate or leach
- Special packaging available for high-purity applications

† Flat face flanges strongly recommended.

* Tested by BALASZ Labs for trace metal extractables, Anions, Cations and T.O.C.s. Results available on request.

** Consult Garlock Applications Engineering for FDA information.



Media

PTFE / EPDM: Acids, caustics, gases, water, hydrocarbons

EPDM only: Water, very mild acids and caustics

Style 3535 Joint Sealant

Benefits

Chemical resistance

- Pure PTFE is chemically inert, withstands a wide range of chemicals

Easy to install

- Continuous length on spools is easily cut and formed
- Strong adhesive backing aids installation on narrow or hard-to-reach flanges



Typical Physical Properties

Sealability (ASTM F37B) ¹	ml/hr	0.1
Gas Permeability (DIN 3535 Part 4) ²	cc/min.	0.05

¹ ASTM F37B Sealability, milliliters/hour (1/4" thick)

ASTM Fuel A (isooctane):

Gasket load: 3000 psi (20.7 N/mm²), Internal pressure: 30 psig (2 bar)

² DIN 3535 Part 4 Gas Permeability, cc/min. (1/4" thick) Nitrogen:

Internal pressure: 580 psig (40 bar), Gasket load: 4640 psi (32 N/mm²)

GYLON® Style 3522 Diaphragm Material

Benefits

Chemical and temperature resistance

- Withstands aggressive chemicals and temperatures up to +500°F (+260°C). Consult Garlock Engineering regarding your specific application.

Resilience

- Up to three times the flex life of conventional PTFE

FDA Conformance

Welded GYLON®

Benefits

Effective seal

- Patented* welding 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, and 3510 can be welded using this unique process

* Patent #4,990,296

† O.D. sizes 70" (1778 mm) and over

Comparison of Typical Physical Properties

		GYLON® 3522	Skived PTFE
Color		Clear, translucent	
Composition		PTFE	
Temperature	Maximum ¹	+500°F (+260°C)	
Creep Relaxation (ASTM F38)	%	35	51
Specific Gravity (D792)		2.19	2.185
Compressibility (ASTM F36)	% Range	20-25	20-25
Recovery (ASTM F36)	Min. %	50	50
Tensile Strength (ASTM D1708)			
X direction	psi (N/mm ²)	5000 (35)	4050 (28)
Y direction	psi (N/mm ²)	5100 (36)	3000 (21)
Ultimate Elongation (ASTM D1708)			
X direction	%	500	550
Y direction	%	520	450
Gas Permeability (ASTM D1434V)	cc/M ² /24 hrs	10,000	35,000
Flammability		Will not burn	
Bacterial Growth		Will not support	

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

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Notes:

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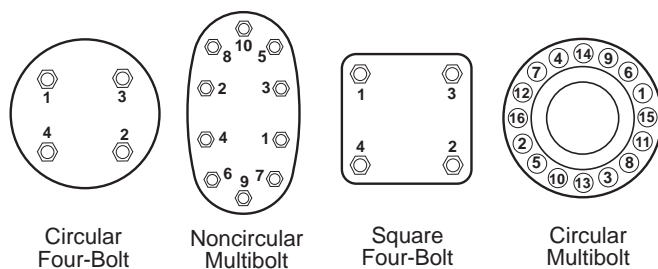
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Gasket Installation

- 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



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"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	2750
	1/8"	5.0	3500
3504	1/16"	3.0	1650
	1/8"	2.5	3000
	3/16"	2.5	3000
	1/4"	2.5	3000
3510	1/16"	2.0	2350
	1/8"	2.0	2500
3530	1/16"	2.8	1650
3540	1/16"	3.0	1700
	1/8"	3.0	2200
	3/16"	2.0	2200
	1/4"	2.0	2500
3545	1/16"	2.6	1500
	1/8"	2.0	2200
	3/16"	2.0	2200
	1/4"	7.0	3700
HP 3560	1/16"	5.0	3500
	1/8"	5.0	4000
HP 3561	1/16"	5.0	3500
	1/8"	5.0	4000
3565	1/16"	2.8	1400
	1/8"	3.7	2300
	3/16"	5.5	2800
	1/4"	6.0	2800
STRESS SAVER®	1/8"	2.0	400

* These M values, based on ambient temperature leakage with nitrogen, are high. Field experience has shown that lower values would be workable in elevated temperatures. Consult Applications Engineering.

Gasket Constants

Product Style	Thickness (inches)	Gb	a	Gs	S100	S1000	S3000	S5000	S10000	Tpmin	Tpmax
3500	1/16	949	0.253	2.6	3,043	5,448	7,194	8,187	9,755.9	373	16,890
3504	1/16	183	0.357	0.00401	947	2,155	3,190	3,828	4,902.9	3097	14,817
3510	1/16	289	0.274	6.61E-11	1,021	1,918	2,592	2,981	3,604.9	11,881	25,501
	1/8	444	0.332	0.0129	2,048	4,399	6,336	7,506	9,448.9	1,770	17,550
3535	3/8	430	0.286	1.69E-09	1,605	3,101	4,245	4,913	5,990.6	373	—
3540	1/16	550	0.304	0.764	2,230	4,491	6,272	7,326	9,044	973	23,670
3545	3/16	628	0.249	7.93E-05	1,977	3,507	4,611	5,236	6,222.4	373	—
3561	1/16	72.3	0.466	0.261	618	1,808	3,016	3,827	5,286.1	1,688	21,755

ASTM F104 Line Callouts

GYLON® Style ¹	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) ²	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 ³	F419000A9B2	—	—	—	Typical: 0.25 ml/hr Max: 1.0 ml/hr	—
3545 ³	F419000A9B3	—	—	—	Typical: 0.15 ml/hr Max: 1.0 ml/hr	—
HP 3560 ⁴	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 ⁴	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.

¹ For Styles 3500 thru 3545, thickness is 1/32"; for Styles 3560-3565, thickness is 1/16".
² Gasket load = 1,000 psi (7.0 N/mm²); internal pressure = 9.8 psig (0.7 bar).

³ Third numeral 9: F36 Compressibility: 3540: 70-85%, 3545: 60-70%.
⁴ Line callout = OFMF9: 9 = Perforated stainless steel,
 F = F451999A9B1E99K6M6 (HP 3560);
 F = F451999A9B2E99K5M6 (HP 3561).

Sheet Sizes

	60" x 60"					70" x 70"				60" x 90"			40" x 40"			24" x 24"		20" x 20"			
	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"	1/32"	1/16"	1/8"	
Style 3500	■	■	■	■	■		■	■			■	■									
Style 3504		■	■	■	■		■	■	■		■	■	■								
Style 3510	■	■	■	■	■		■	■			■	■									
Style 3522																■	■	■	■	■	
Style 3530		■	■										■	■	■						
Style 3540	■	■	■	■	■	■	■	■		■	■	■	■								
Style 3545	■	■	■	■	■		■	■			■	■									
Style HP-3560																■	■				
Style HP-3561																■	■				
Style 3565	■	■	■	■	■		■	■	■		■	■									

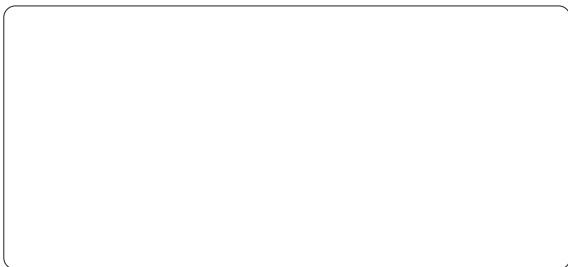
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WARNING:

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.

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