Garlock
an EnPro Industries family of companies

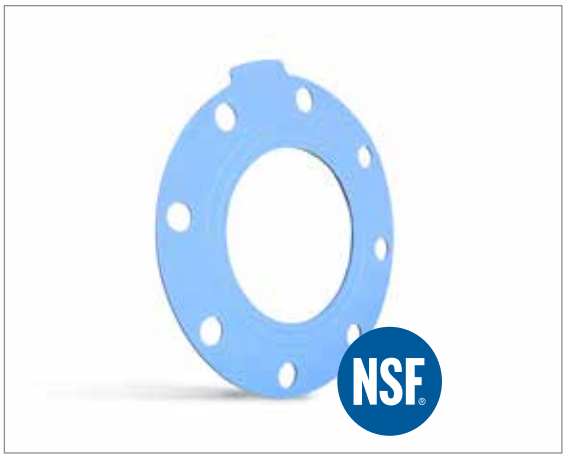
Garlock Stress Saver® Gaskets

Superior low-torque gaskets for metallic or non-metallic flanges

Leaders in Sealing Integrity

Style 3504 GYLON® STRESS SAVER®

Since 1996 the Garlock family of companies has successfully sealed low load flanges with our STRESS SAVER® family of products. The molded raised ribs help to create a tighter seal by concentrating the compressive load, ideal for lightweight piping. Our new Style 3504 GYLON® STRESS SAVER®* combines these proven sealing advantages with the performance characteristics of the industry recognized GYLON® 3504. The combination of these two time-tested configurations make Style 3504 GYLON® STRESS SAVER® the ultimate sealing solution.



VALUE AND BENEFITS

- Versatility - Suitable for both metallic and non-metallic piping with either flat or raised face flanges
- Chemical Resistance – GYLON® 3504 is ideal for a wide range of caustics and acids, helping to simplify the selection process
- Limited Creep and Cold-Flow – Greatly reduces the leakage after installation and system cycling
- Superior Physical Properties – Higher temperature and pressure capabilities compared to rubber gaskets
- Homogeneous Construction – Single piece design helps avoid permeation, delamination, fold-over of PTFE envelopes, or potential splitting when installed against raised face flanges
- High Purity- FDA, USP Class VI, and NSF-61* as requested
- *Style 3505 GYLON® STRESS SAVER® is able to meet the stringent requirements of NSF-61 for potable drinking water applications.

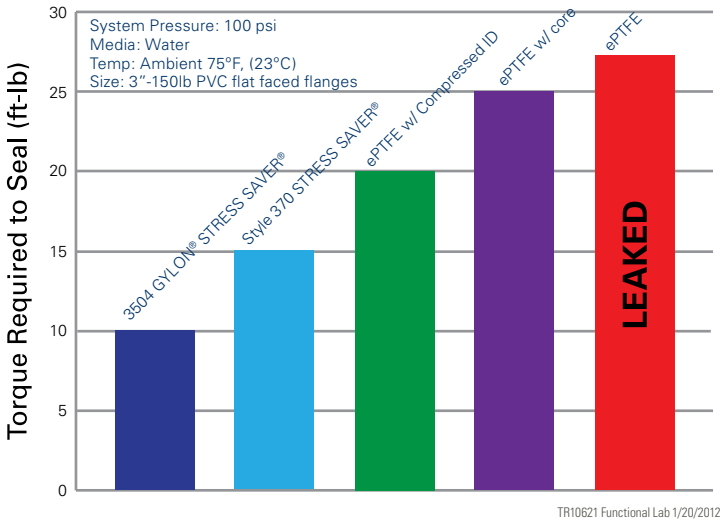
DIN 3535 "STEP LOAD" GAS PERMEABILITY TESTING (NITROGEN)

Blue GYLON® Style 3504 STRESS SAVER®

Gasket Stress (psi)	200	300	600	900	1200	1800	2400	3600	4640
Internal Press (psig)	50			580					
Leakage (cc/min)	<0.011			<0.011					

PLASTIC FLANGE TEST

3504 GYLON® STRESS SAVER® Gaskets seal at lower torque when compared to other low-load sealing gaskets.

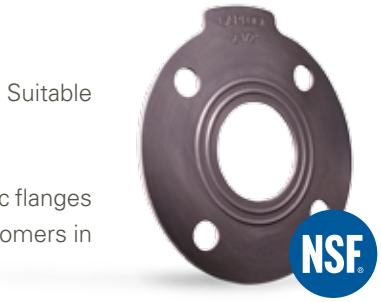


THERMAL CYCLE TEST

Style 3504 GYLON® STRESS SAVER® showed no signs of leakage when installed between smooth, flat face FRP flanges – the flange assembly was subjected to over 3,000 thermal cycles without a re-torque.

Size: 6" flat face FRP pipe flange w/ lubricated carbon steel bolts
Temp: 95°F to 180°F
Media: Water
Pressure: 150psi
Torque: 35 ft-lbs (recommended torque per manufacturer)
Cycle: 30 min ramp up to 180°F
5 min Dwell @180°F
10 min Cool down to 95°F

STRESS SAVER® XP



Single piece molded design made from high performance, proprietary blend of fluoroelastomers. Suitable for use in potable drinking water, steam, and severe chemicals.

VALUE AND BENEFITS

» Tighter Seal - Lower seating stress than expanded PTFE gasket; ideal for flat-faced non-metallic flanges
» Chemical Resistance - High performance fluoroelastomer; outperforms traditional fluoroelastomers in severe chemical and steam applications with improved heat resistance.
» Corzan® System compatible and recommended for CPVC piping system
» Certified to NSF 61 for potable drinking water systems

Corzan is a registered trademark of Lubrizol®

STRESS SAVER® Style 370

White EPDM elastomer molded with a virgin PTFE envelope. Proprietary process bonds the PTFE to the elastomer without the use of adhesives, eliminating envelope fold-over concerns during installation.

VALUE AND BENEFITS

» Tighter Seal - Lower seating stress than expanded PTFE gasket; ideal for flat-faced non-metallic flanges
» Chemical Resistance - Virgin PTFE sealing surface resists a variety of moderate chemicals
» High Purity - Contaminant-free white EPDM is ideal for ultrapure services: electronics*, pharmaceuticals, and food industries
» Constructed of FDA approved ingredients**

*Tested by BALAZS Labs for trace metal extractables, anions, cations, and T.O.C.s. Results available upon request.

** Consult Garlock Applications Engineering for FDA information

STRESS SAVER® Style 6800

Made with 100% white EPDM elastomer. Suitable for less critical application where a tight seal is needed. Recommended for use in flat face flanges only.

VALUE AND BENEFITS

» High Purity - Contaminant-free white EPDM is ideal for ultrapure services: electronics*, pharmaceuticals and food industries
» Constructed of FDA approved ingredients**

*Tested by BALAZS Labs for trace metal extractables, anions, cations, and T.O.C.s. Results available upon request.

** Consult Garlock Applications Engineering for FDA information

The STRESS SAVER® Family

INDUSTRIES SERVED

» Chemical Processing
» Electronics, semiconductor
» Food
» Pharmaceutical
» Pulp and Paper
» Potable/Drinking water*

IDEAL FOR

» PVC
» FRP
» PVDF
» CPVC
» Polypropylene
» Cast and ductile iron

STRESS SAVER®	Flat face flange	Raised face flange
3504 GYLON®	✓	✓
Style XP	✓	
Style 370	✓	
Style 6800	✓	

* Specify Style XP and Style 3505 GYLON® STRESS SAVER®

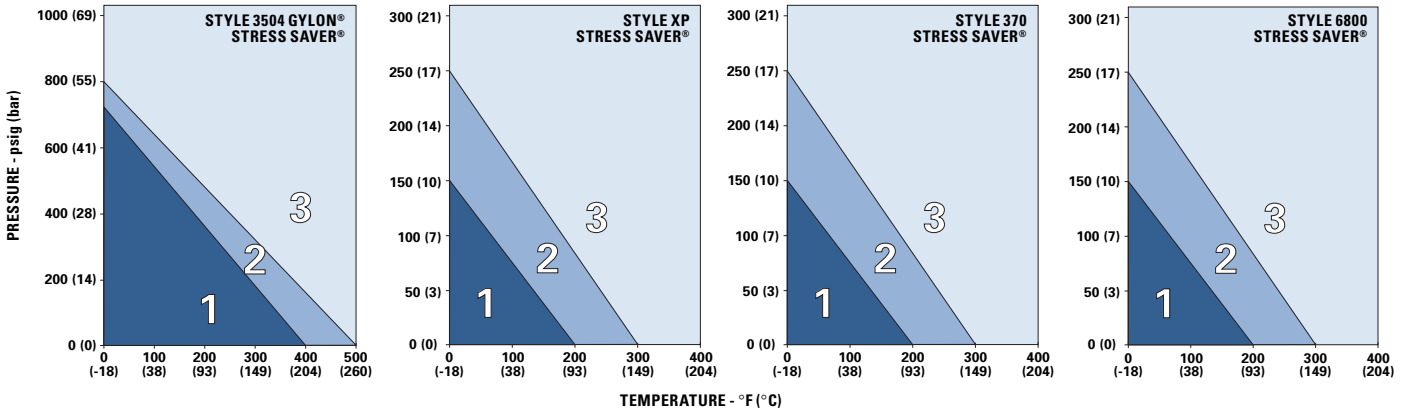
TYPICAL PHYSICAL PROPERTIES

	Style 3504 GYLON® STRESS SAVER®	Style XP STRESS SAVER®	Style 370 STRESS SAVER®	Style 6800 STRESS SAVER®
Composition:	PTFE with aluminosilicate microspheres	Proprietary blend of fluoroelastomer (70 durometer)	100% Pure PTFE bonded to 65 Duro EPDM	EPDM only (65 durometer)
Color:	Blue	Black	PTFE: Sky Blue EPDM: Off-white	Off-white
Temperature:				
Minimum:	-450°F (-268°C)	-15°F (-26°C)	-40°F (-40°C)	-40°F (-40°C)
Ideal Operating Limit:	400°F (204°C)	250°F (121°C)	200°F (93°C)	200°F (93°C)
Maximum:	+500°F (+260°C)	+400°F (+204°C)	+300°F (+149°C)	+300°F (+149°C)
Pressure:				
Ideal Operating Limit:	750 psig (52 bar)	150 psig (10 bar)	150 psig (10 bar)	150 psig (10 bar)
Maximum:	800 psig (55.2 bar)	250 psig (17 bar)	250 psig (17 bar)	250 psig (17 bar)
Media[3]:	All solvents, moderate caustics and acids, hydrocarbons, refrigerants, cryogenics and potable drinking water[4]	Potable drinking water, steam, most hydrocarbons, gases, solvents	Moderate acids, caustics, gases, water, hydrocarbons	Water, very mild acids and caustics
M&Y:	2.0 / 400 psi	2.0 / 200 psi	2.0 / 400 psi	0.5 / 100 psi

[1] Max pressure is dependent on available compressive stress and is not achievable in all flange types.
[2] When approaching maximum pressure or temperature, consult Garlock Engineering
[3] The suitability of a specific media should be verified with Garlock Applications Engineering
[4] Specify Style 3505 GYLON® STRESS SAVER®

This is a general guide and should not be the sole means of selecting or rejecting this material. Values do not constitute specification limits.

1. Suitable for use if chemically compatible & installed using Garlock's recommended installation practices & assembly stresses.
2. Please consult Garlock Applications Engineering to confirm the suitability with your service conditions.
3. Generally not suitable - please consult Garlock's Applications Engineering to confirm the suitability with your service conditions.



Garlock Bolt Torque Values for STRESS SAVER® Gaskets B16.5 150# Flat Face Flanges

Nominal Pipe Size	Number of Bolts	Size of Bolts	Minimum Suggested Torque	Preferred Torque Range	
(in)	Bolts	(in)	(ft. lbs)	Min. (ft. lbs)	Max (ft. lbs)
0.5	4	0.50	5	9	19
0.75	4	0.50	6	12	23
1	4	0.50	7	14	28
1.25	4	0.50	8	16	32
1.5	4	0.50	10	19	37
2	4	0.63	17	33	66
2.5	4	0.63	23	45	90
3	4	0.63	25	49	97
3.5	8	0.63	15	30	60
4	8	0.63	17	33	66
5	8	0.75	21	41	82
6	8	0.75	23	46	92
8	8	0.75	33	66	132
10	12	0.88	32	64	128
12	12	0.88	47	93	186
14	12	1.00	67	134	268
16	16	1.00	60	120	241
18	16	1.13	66	132	264
20	20	1.13	62	124	249
24	20	1.25	87	173	347

*NOTE 1: Table based on A193 B7 bolts or bolts of equal strength.
*NOTE 2: Garlock does not recommend exceeding the flange manufacturer's max. recommended torque.
*NOTE 3: Min torque value is equal to 300 psi Compressive stress.
*NOTE 4: Preferred range creates 600 to 1200 psi Compressive stress.

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