

# Garlock® Stress Saver® Gasket

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



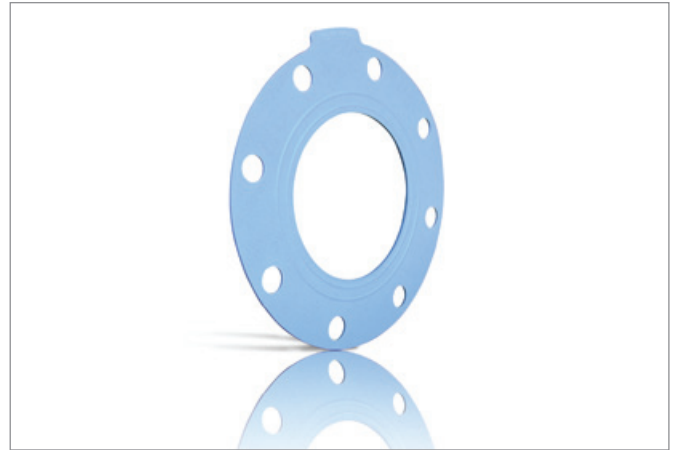
# Style 3504 GYLON® Stress Saver®

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 as 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 water applications.

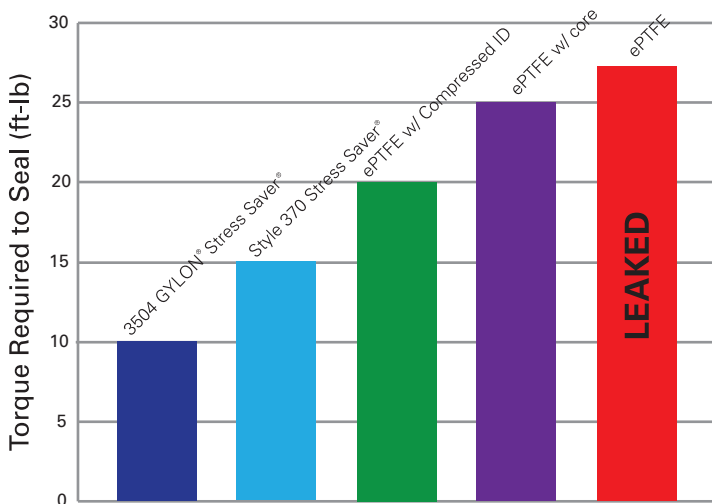


## DIN 3535 "STEP LOAD" GAS PERMEABILITY TESTING (NITROGEN)

### 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.

System Pressure: 100psi  
 Media: Water  
 Temp: Ambient (~75°F, 23°C)  
 Size: 3"-150lb  
 Type: Plastic flanges

TR10621 Functional Lab 1/20/2012

## THERMAL CYCLE TEST



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

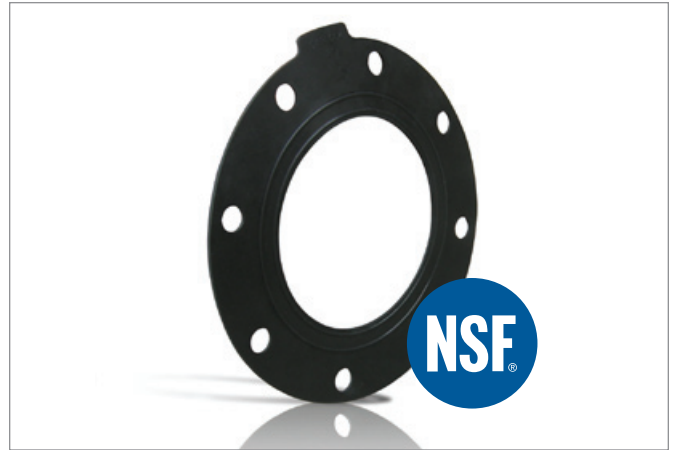
- Size: 6" FRP pipe flange w/ lubricated carbon steel bolts
- Temp: 95°F to 180°F
- Media: Water
- Pressure: 150psi
- Torque: 35ft-lbs (recommended torque per manufacturer)
- Cycle: 30min ramp up to 180°F  
 5min Dwell @180°F  
 10min Cool down to 95°F

## Stress Saver® XP

Single piece molded design made from high performance, proprietary blend of fluoroelastomers. Suitable for use in potable water, steam and most 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.
- > System compatible and recommended for Corzan® piping system
- > Certified to NSF 61 for drinking water systems



## Stress Saver® Style 370

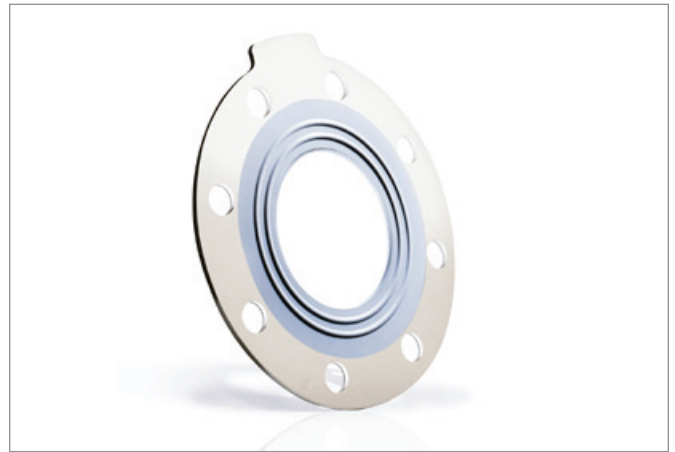
White EPDM elastomer molded with virgin PTFE envelope. Proprietary process bonds the PTFE to the elastomer without the use of adhesives, eliminating envelope fold-over concerns during installation.

### 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.

\* Corzan is a registered trademark of Lubrizol®

## TYPICAL PHYSICAL PROPERTIES

	Style 3504 GYLON® STRESS SAVER®	Style XP STRESS SAVER®	Style 370 STRESS SAVER®	Style 6800 STRESS SAVER®
<b>Composition</b>	100% GYLON® PTFE with glass microspheres	Proprietary blend of fluoroelastomer (70 durometer)	100% Pure PTFE bonded to EPDM	EPDM only (65 durometer)
<b>Color</b>	Blue	Black	PTFE: Sky Blue EPDM: Off-white	Off-white
<b>Temperature</b>	+500°F (+260°C) -450°F (-268°C)	+400°F (+204°C) -15°F (-26°C)	+300°F (+150°C) -40°F (-40°C)	+300°F (+150°C) -40°F (-40°C)
<b>Pressure<sup>1</sup> psig (bar)</b>	800 (55)	250 (17)	250 (17)	250 (17)
<b>PxT (max)<sup>1,2</sup>, (psig x °F)(bar x °C)</b>	250,000 (8,600)	50,000 (1,717)	50,000 (1,717)	50,000 (1,717)
<b>Media<sup>3</sup></b>	All solvents, most caustics and acids, hydrocarbons, refrigerants, cryogenics and potable water <sup>4</sup>	Potable water, steam, most hydrocarbons, gases, solvents	Moderate acids, caustics, gases, water, hydrocarbons	Water, very mild acids and caustics
<b>M&amp;Y</b>	TBD	2.0 / 200 psi	2.0 / 400 psi	0.5 / 100 psi

<sup>1</sup> Max pressure is dependent on available compressive stress and is not achievable in all flange types.

<sup>2</sup> When approaching maximum pressure or temperature, or 50% of maximum PxT, consult Garlock Engineering

<sup>3</sup> The suitability of a specific media should be verified with Garlock Applications Engineering

<sup>4</sup> 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.

Nominal Pipe Size (in)	Number of Bolts	Size of Bolts (in)	Minimum Suggested Torque (ft. lbs)	Preferred Torque Range	
				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 manufacturers max. recommended torque.  
\*NOTE 3: Min Torque value is equal to 300 PSI Compressive stress.  
\*NOTE 4: Req'd Range creates 600 to 1200 PSI Compressive stress.

### IDEAL FOR

#### Industries

- > Chemical Processing
- > Electronics, semiconductor
- > Food
- > Pharmaceutical
- > Pulp and Paper
- > Potable/Drinking water\*

\*Specify Style XP and Style 3505 GYLON® Stress Saver®

### IDEAL FOR

#### Flange Types

- > 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	✓	

GSK 3:42