
ENGINEERED SHEET RUBBER

Product selection guide



Garlock

RUBBER TECHNOLOGIES®

Garlock Rubber Technologies offers the most extensive line of sheet rubber in the industry. Our top quality products are made with pride at our state-of-the-art facility in Paragould, Arkansas.

The Garlock Rubber Technologies success is founded on experience, innovation, state-of-the-art technology and dedication to quality. For nearly 120 years, we've been a leader in the rubber industry with many technical 'firsts'.

- First to use the alkali reclaim process which cures rubber more efficiently and makes it easier to handle.
- First to develop and patent the Rotocure Vulcanization Process, for uniform continuous process curing.
- First to use the Bierer-Davis Oxygen Bomb to accelerate rubber aging tests.

Garlock Rubber Technologies also maintains one of the industry's most advanced technical labs, where we test the physical, chemical and component properties of materials and finished products. Our computer-controlled manufacturing equipment ensures the tightest possible gauge tolerances and highest quality control. That technology, combined with extensive employee training and experience, means our quality is guaranteed.



Our experienced engineering and field support staff are available to help you decide which products are best for your job requirements. And we have a wide range of made-to-order capabilities so we can customize a product to meet your special needs.

Call Garlock Rubber Technologies for unsurpassed quality and service, including:

- Everything in rubber sheeting including SBR, natural, nitrile, neoprene, EPDM, butyl, CPE, VITON® and HYPALON®. Available in custom-made colors and finishes with or without fiber reinforcement.
- Complete line of slit-to-width skirtboard and chute lining and protecting products for the construction, aggregate and conveyor belting markets.
- Complete line of cushioning products for the road and bridge construction, building construction and vibration isolation markets.
- Gauge thicknesses from 1/32" to 3" (0.8 mm to 76.2 mm)
- 1/32" to 1/4" (0.8 mm to 6.4 mm) thicknesses available up to 84" (2134 mm) in width.
- 1/4" to 1/2" (6.4 mm to 12.7 mm) thicknesses available up to 72" (1828 mm) in width.
- 1/2" to 3" (12.7 mm to 76.2 mm) thicknesses available up to 48" (1219 mm) in width.
- Heavy gauge over 3/8" (9.5 mm) available up to 50' (15.24 m) lengths.

VITON® and HYPALON® are registered trademarks of DuPont Dow Elastomers.

METRIC CONVERSION CHARTS

TEMPERATURE CONVERSION TABLE - CENTIGRADE TO FAHRENHEIT

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-80	-112.0	21	69.8	53	127.4	250	482	570	1058	890	1634	1210	2210
-70	-94.0	22	71.6	54	129.2	260	500	580	1076	900	1652	1220	2228
-60	-76.0	23	73.4	55	131.0	270	518	590	1094	910	1670	1230	2246
-50	-58.0	24	75.2	56	132.8	280	536	600	1112	920	1688	1240	2264
-40	-40.0	25	77.0	57	134.6	290	554	610	1130	930	1706	1250	2282
-30	-22.0	26	78.8	58	136.4	300	572	620	1148	940	1724	1260	2300
-25	-13.0	27	80.6	59	138.2	310	590	630	1166	950	1742	1270	2318
-20	-4.0	28	82.4	60	140.0	320	608	640	1184	960	1760	1280	2336
-15	+5.0	29	84.2	61	141.8	330	626	650	1202	970	1778	1290	2354
-10	14.0	30	86.0	65	149.0	340	644	660	1220	980	1796	1300	2372
-5	23.0	31	87.8	70	158.0	350	662	670	1238	990	1814	1310	2390
0	32.0	32	89.6	75	167.0	360	680	680	1256	1000	1832	1320	2408
1	33.8	33	91.4	80	176.0	370	698	690	1274	1010	1850	1330	2426
2	35.6	34	93.2	85	185.0	380	716	700	1292	1020	1868	1340	2444
3	37.4	35	95.0	90	194.0	390	734	710	1310	1030	1886	1350	2462
4	39.2	36	96.8	95	203.0	400	752	720	1328	1040	1904	1360	2480
5	41.0	37	98.6	100	212.0	410	770	730	1346	1050	1922	1370	2498
6	42.8	38	100.4	110	230	420	788	740	1364	1060	1940	1380	2516
7	44.6	39	102.2	120	248	430	806	750	1382	1070	1958	1390	2534
8	46.4	40	104.0	130	266	440	824	760	1400	1080	1976	1400	2552
9	48.2	41	105.8	140	284	450	842	770	1418	1090	1994	1410	2570
10	50.0	42	107.6	150	302	460	860	780	1436	1100	2012	1420	2588
11	51.8	43	109.4	160	320	470	878	790	1454	1110	2030	1430	2606
12	53.6	44	111.2	170	338	480	896	800	1472	1120	2048	1440	2624
13	55.4	45	113.0	180	356	490	914	810	1490	1130	2066	1450	2642
14	57.2	46	114.8	190	374	500	932	820	1508	1140	2084	1460	2660
15	59.0	47	116.6	200	392	510	950	830	1526	1150	2102	1470	2678
16	60.8	48	118.4	210	410	520	968	840	1544	1160	2120	1480	2696
17	62.6	49	120.2	212	413	530	986	850	1562	1170	2138	1490	2714
18	64.4	50	122.0	220	428	540	1004	860	1580	1180	2156	1500	2732
19	66.2	51	123.8	230	446	550	1022	870	1598	1190	2174		
20	68.0	52	125.6	240	464	560	1040	880	1616	1200	2192		

CONTENTS

Product Selection Guide	2
Safety Information	4
Non-Oil-Resistant Sheet	5
Commercial Grade Neoprene Sheet	6
Neoprene Oil- and Ozone-Resistant Sheet.....	7
Nitrile Oil-Resistant Sheet	8
Neoprene Diaphragm Sheet	9
Food Grade Sheet.....	10
Cloth-Inserted Sheet	11
Chute Lining and Extruded Skirtboard	12
VIBLON™ Cushioning Pads	13
Neoprene Bearing Pads	14
High Performance Sheet Rubber–500 Series	15
Chemical Resistance Guidelines	16
Chemical Resistance Charts	17
Elastomers and Performance Characteristics	24
Non-Stock Items	26
Ordering and Service Information	27
ANSI/ASTM Information	27
Metric Conversion Charts	28

PRODUCT SELECTION GUIDE

Product	Elastomer	Color	Durometer* (Shore A)	Typical Tensile* psi [bar] (Minimum)	ASTM Specifications	Page No.
Bay State 22	NAT/SBR	Red	70-85	1,000 (700) [69 (48)]	ASTM D-1330 Gr. I & II	5
Style #50	NAT/SBR	Red	70-85	800 (400) [55 (28)]	ASTM D-1330 Gr. II	5
Style #60	SBR	Black	70-85	800 (400) [55 (28)]	ASTM D-1330 Gr. II	5
Style #135	Natural	Tan	35-45	3,400 (3,000) [235 (207)]	ASTM D2000-AA-430	5, 12
Style #145	Natural	Tan	40-50	3,100 (2,800) [214 (193)]	ASTM D2000-AA-428-Z1	5, 12
Style #563	EPDM	Black	55-65	1,700 (1,500) [117 (104)]	ASTM D2000-3BA-615-B13-C12	5
Style #564	EPDM	Black	55-65	1,200 (1,000) [83 (69)]	ASTM D2000-2BA-610-C12	5
Style #4160	Natural	Red	55-65	1,400 (1,200) [97 (83)]	ASTM D2000-2AA-612-A13	5,10
Style #244	Blended CR/NBR/SBR	Black	35-45	900 (800) [62 (55)]	ASTM D2000-BC-408	6
Style #254	Blended CR/NBR/SBR	Black	45-55	1,000 (800) [69 (55)]	ASTM D2000-BC-508	6
Style #264	Blended CR/NBR/SBR	Black	55-65	1,100 (800) [76 (55)]	ASTM D2000-BC-608	6
Style #274	Blended CR/NBR/SBR	Black	65-75	1,200 (1,000) [83 (69)]	ASTM D2000-BC-710	6
Style #284	Blended CR/NBR/SBR	Black	75-85	1,400 (1,000) [97 (69)]	ASTM D2000-BC-810	6
Style #1051 Branded	Neoprene	Black	55-65	1,200 (1,000) [83 (69)]	ASTM D2000-BC-610-C12-Z1	7
Style #5240	Neoprene	Black	35-45	1,700 (1,500) [117 (104)]	ASTM D2000-5BC-413-A14-B14-E034	7
Style #5250	Neoprene	Black	45-55	1,800 (1,500) [124 (104)]	ASTM D2000-2BE-515-A14-B14-C12-E034-F17	7
Style #5260	Neoprene	Black	55-65	1,800 (1,500) [124 (104)]	ASTM D2000-2BE-615-A14-B14-C12-E014-F17-Z1	7
Style #361	Nitrile	Black	55-65	2,000 (1,800) [138 (124)]	ASTM D2000-BF-618	8
Style #363 Branded	Nitrile	Black	55-65	1,200 (1,000) [83 (69)]	ASTM D2000-BF-610	8
Style #5340	Nitrile	Black	35-45	1,600 (1,300) [110 (90)]	ASTM D2000-5BG-413-A14-B14-E034	8
Style #5360	Nitrile	Black	55-65	2,000 (1,500) [138 (104)]	ASTM D2000-5BG-615-A14-B14-E034	8
Diaphragm #3205, #3206, #3207, #3210	Neoprene	Black	65-75	1,500 (1,400) [104 (97)]	ASTM D2000-BC-714	9

* Figures are for rubber compound without fabric.

NOTE

The chart on page 2 and 3 lists the basic physical properties of each Garlock sheet rubber style, making it easier to match your specifications and requirements to a Garlock material. Refer to the pages listed in the last column for additional information.

Since each application is unique, when trying to match a sheet rubber to a specific application various criteria should be considered including the list on page 26 under "Information Necessary for Custom Manufacturing."

Further information regarding the use of Garlock sheet rubber is available by calling Garlock Customer Service at (800) 643-0134.

PRODUCT SELECTION GUIDE

Product	Elastomer	Color	Durometer* (Shore A)	Typical Tensile* psi [bar] (Minimum)	ASTM Specifications	Page No.
Style #362	Nitrile	White	55-65	1,700 (1,500) [117 (104)]	ASTM D2000-2BF-615-E034	10
Multi-Ply	SBR/NBR Polyester Fabric	Black	70-80	1,300 (1,000) [90 (69)]	ASTM D2000-BC-810-Z1	11
Style #2102	SBR/NBR Polyester Fabric	Black	70-80	1,300 (1,000) [90 (69)]	ASTM D2000-BC-810-Z1	11
Style #70	SBR/NBR Polyester Fabric	Black	70-80	1,300 (1,000) [90 (69)]	ASTM D2000-BC-810-Z1	11
Style #2264	Blended SBR/CR/NBR Polyester Fabric	Black	55-65	1,100 (800) [76 (55)]	ASTM D2000-BC-608	11
Style #2361	Nitrile	Black	55-65	2,000 (1,800) [138 (124)]	ASTM D2000-BF-618	11
Style #2564	EPDM Fabric	Black	55-65	1,200 (1,000) [83 (69)]	ASTM D2000-2BA-610-C12	11
Super RINOHIDE™	SBR	Black	55-65	2,800 (2,500) [193 (173)]	ASTM D2000-BA-625	12
RINOBACK™	SBR/ Cottonback	Black	55-65	2,800 (2,500) [193 (173)]	ASTM D2000-BA-625	12
Tan Gum	Natural	Tan	35-45	3,400 (3,000) [235 (207)]	ASTM D2000-AA-430	12
Style #7164	SBR	Black	55-65	2,400 (2,000) [166 (138)]	ASTM D2000-BA-620	12
Extruded Skirtboard VIBLON™	SBR	Black	55-65	1,800 (1,500) [124 (104)]	ASTM D2000-BA-615	12
	Nitrile	Tan	--	Not Applicable	Designed to meet MIL-C-822E specifications	13
Bearing Pads	Neoprene & Natural	Black	45-55	2,600 (2,250) [179 (155)]	Designed to meet AASHTO specifications	14
			55-65	2,800 (2,250) [193 (155)]		
			65-75	3,000 (2,250) [207 (155)]		
Style #9518 Branded/Scented	VITON®	Black	70-80	1,300 (1,000) [90 (69)]	ASTM D2000-2HK-710-B37-Z1	15
Style #505 Branded	CPE	Black	65-75	2,000 (1,800) [138 (124)]	ASTM D2000-2CE-718-B15	15
Style #506	HYPALON®	Black	55-65	2,100 (1,800) [145 (124)]	ASTM D2000-CE-618	15
Style #509 Branded	Butyl	Black	55-65	1,800 (1,500) [124 (104)]	ASTM D2000-CA-615	15

* Figures are for rubber compound without fabric.
VITON® and HYPALON® are registered trademarks
of DuPont Dow Elastomers.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

SAFETY INFORMATION

READ THIS PAGE BEFORE USING ANY OF THE INFORMATION IN THIS CATALOG

This catalog is intended as a guide to selecting the proper sheet rubber for the applications listed herein. It contains important cautions, warnings, guidelines and directions for the safe and proper use of Garlock sheet rubber. All these directions and footnotes should be read and understood before specifying or using any of these sheet rubber products.

Symbols, boxes, boldface type, etc. are used to call attention to these instructions. Be sure to read and understand them before proceeding further with this information.

WARNING!

- Certain sheet rubber applications are dangerous, such as those involving high temperatures, fuels and flammables, high pressures or chemical exposure.
 - An in-service failure of sheet rubber can result in serious bodily injury or property damage. Do not use the sheet rubber products above the temperatures recommended by the manufacturer.
 - All operators must be thoroughly trained to inspect for leakage and other signs of gasket wear.
 - Failure or misapplication of a seal, gasket or sheet rubber could cause the release of a poisonous, corrosive or flammable material, resulting in serious bodily injury, such as burns to the skin, eyes or respiratory system through coming into contact with the escaping fluid vapor.
 - Personnel located in areas close to systems containing these dangerous materials must be properly equipped with protective clothing, facial protection and emergency breathing equipment.
- SERVICE LIFE.** The service life of sheet rubber will decrease as the application approaches the upper temperature limit. The service life of sheet rubber products in high temperature applications depends on the specific details of the application, including chemicals and/or oils in contact with the rubber.

CONSULT THE CHEMICAL RESISTANCE GUIDELINES BEGINNING ON PAGE 16 OF THIS CATALOG FOR VITON,[®] CPE, AND BUTYL PRODUCTS. CALL GARLOCK AT (800) 643-0134 OR FAX (800) 325-0506 FOR ADDITIONAL APPLICATION GUIDELINES AND CHEMICAL COMPATIBILITY INFORMATION ON OTHER SHEET PRODUCTS.

NON-OIL-RESISTANT SHEET

Bay State 22 (Branded) has a smooth, rotocured finish. It is a blend of natural and SBR rubber, specially compounded to be quick-sealing, non-hardening and heat resistant. It conforms easily to uneven flange surfaces.

- ASTM D-1330 Gr. I

Style #50 is a cloth-finish, drum-cured sheet. It is an excellent, low-cost, flange gasket material.

- ASTM D-1330 Gr. II

Style #60 is a cloth-finish, drum-cured sheet. It is an excellent, low-cost, flange gasket material.

- ASTM D-1330 Gr. II

Style #135 is a full-floating, natural rubber. It resists most organic salts, ammonia, acids and alkalies. It is non-marking.

- ASTM D2000-AA-430

Style #145 is an economical natural rubber which can be used in the same applications as Style #135.

- ASTM D2000-AA-428-21

Style #563 is an EPDM sheet that provides outstanding resistance to weathering, ozone and UV exposure. It provides excellent chemical resistance and dynamic properties.

- ASTM D2000-3BA-615-B13-C12

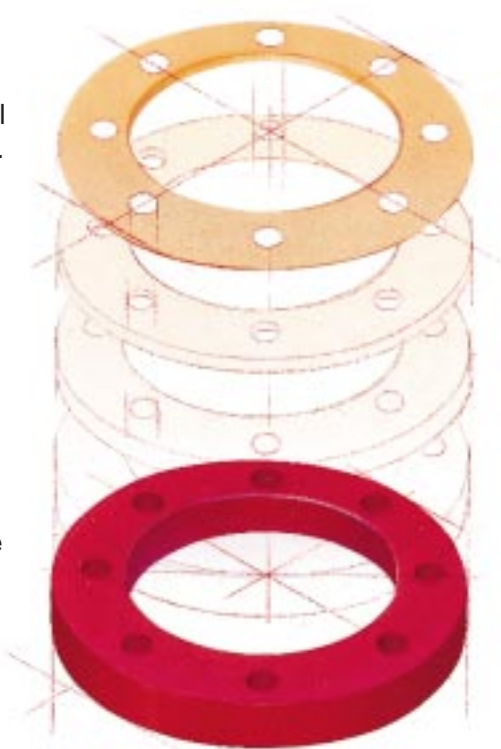
Style #564 has the same general characteristics as Style #563, but it is a commercial quality sheet.

- ASTM D2000-2BA-610-C12

Style #4160 is a high-grade, natural rubber sheet primarily designed for squeegees for professional window cleaners. It also makes an excellent floor squeegee when oils are not present. Meets FDA requirements for food-grade gasket material.

- ASTM D2000-2AA-612-A13

Excellent general purpose gasket materials for air, hot and cold water, saturated steam and exterior service.

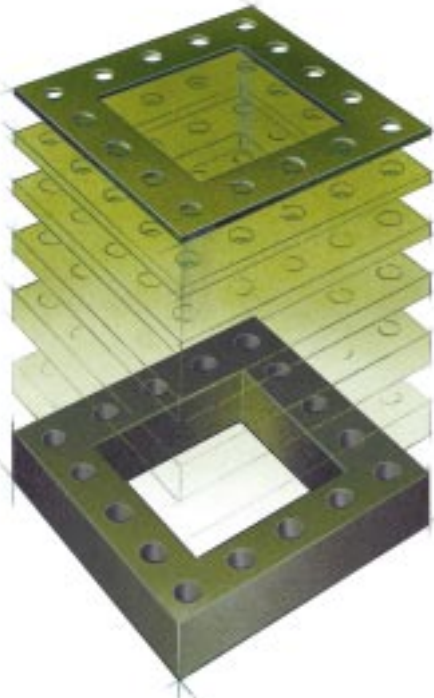


Style	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Bay State 22 Branded	Natural/SBR	Red	70-85	1,000 (700) [69 (48)]	Smooth	200	4.7 [2.5]	up to 72 [1829]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-20°F to +180°F [-29°C to +82°C]	250 [17]
Style #50	Natural/SBR	Red	70-85	800 (400) [55 (28)]	Cloth Impression	150	5.0 [2.7]	36, 48 [914, 1219]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +180°F [-29°C to +82°C]	150 [10]
Style #60	SBR	Black	70-85	800 (400) [55 (28)]	Cloth Impression	150	5.0 [2.7]	36 [914]	1/16, 3/32, 1/8 [1.6, 2.4, 3.2]	-20°F to +180°F [-29°C to +82°C]	150 [10]
Style #135	Natural	Tan	35-45	3,400 (3,000) [235 (207)]	Smooth	600	2.9 [1.6]	36, 48 [914, 1219]	1/16 thru 1 [1.6 thru 25.4]	-20°F to +180°F [-29°C to +82°C]	250 [17]
Style #145	Natural	Tan	40-50	3,100 (2,800) [214 (193)]	Smooth	550	3.2 [1.7]	36 [914]	1/16 thru 1 [1.6 thru 25.4]	-20°F to +180°F [-29°C to +82°C]	250 [17]
Style #563	EPDM	Black	55-65	1,700 (1,500) [117 (104)]	Smooth	400	3.3 [1.8]	36 [914]	1/16 thru 1/4 [1.6 thru 6.4]	-40°F to +275°F [-40°C to +135°C]	250 [17]
Style #564	EPDM	Black	55-65	1,200 (1,000) [83 (69)]	Smooth	350	3.6 [2.0]	36, 48 [914, 1219]	1/16 thru 1/2 [1.6 thru 12.7]	-20°F to +250°F [-29°C to +121°C]	250 [17]
Style #4160	Natural	Red	55-65	1,400 (1,200) [97 (83)]	Smooth	400	4.8 [2.6]	36 [914]	5/64, 3/32, 3/16 [2.0, 2.4, 4.8]	-20°F to +180°F [-29°C to +82°C]	250 [17]

*Refer to "Sheet Rubber Tolerances," page 26.

COMMERCIAL GRADE NEOPRENE SHEET

These products are blends of neoprene, nitrile and SBR rubbers. They are moderately oil-resistant, for use as bumpers, pads, and in sealing and general gasket applications. These are commercial grade materials, not recommended in applications where high oil resistance is required.



Style #244 is a soft, good quality, blended CR/NBR/SBR sheet.

- ASTM D2000-BC-408

Style #254 is a medium-soft, good quality, blended CR/NBR/SBR sheet.

- ASTM D2000-BC-508

Style #264 is a medium-hard, good quality, blended CR/NBR/SBR sheet.

- ASTM D2000-BC-608

Style #274 is a hard, good quality, blended CR/NBR/SBR sheet.

- ASTM D2000-BC-710

Style #284 is a hard, good quality, blended CR/NBR/SBR sheet.

- ASTM D2000-BC-810

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

Style	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Style #244	Blended CR/NBR/SBR	Black	35-45	900 (800) [62 (55)]	Smooth	350	3.7 [2.0]	up to 72 [1829]	1/16 thru 1/2 [1.6 thru 12.7]	-20°F to +190°F [-29°C to +88°C]	150 [10]
Style #254	Blended CR/NBR/SBR	Black	45-55	1,000 (800) [69 (55)]	Smooth	300	4.0 [2.2]	up to 72 [1829]	1/16 thru 1 [1.6 thru 25.4]	-20°F to +190°F [-29°C to +88°C]	150 [10]
Style #264	Blended CR/NBR/SBR	Black	55-65	1,100 (800) [76 (55)]	Smooth	300	3.9 [2.1]	up to 72 [1829]	1/32 thru 2 [0.8 thru 50.8]	-20°F to +190°F [-29°C to +88°C]	150 [10]
Style #274	Blended CR/NBR/SBR	Black	65-75	1,200 (1,000) [83 (69)]	Smooth	200	4.0 [2.2]	up to 72 [1829]	1/16 thru 1 [1.6 thru 25.4]	-20°F to +190°F [-29°C to +88°C]	150 [10]
Style #284	Blended CR/NBR/SBR	Black	75-85	1,400 (1,000) [97 (69)]	Smooth	200	4.1 [2.2]	up to 72 [1829]	1/16 thru 1/2 [1.6 thru 12.7]	-20°F to +190°F [-29°C to +88°C]	150 [10]

* Refer to "Sheet Rubber Tolerances," page 26.

NEOPRENE OIL- AND OZONE-RESISTANT SHEET

This blended neoprene sheet is used where good oil, petroleum, ozone and weathering-resistance is needed. It is very popular due to the broad range of applications in which it may be used.

Style #1051 is a good quality, branded neoprene sheet (51% neoprene base).

- ASTM D2000-2BC-610-C12-Z1 (Z1 Equals 250% Elongation)

Style #5240 is a soft, premium-grade, neoprene sheet with good resistance to oil, weathering and ozone exposure.

- ASTM D2000-5BC-413-A14-B14-E034

Style #5250 is a medium-soft, premium-grade, neoprene sheet.

- ASTM D2000-2BE-515-A14-B14-C12-E014-F17

Style #5260 is a medium-hard, premium-grade, neoprene sheet.

- ASTM D2000-2BE-615-A14-B14-C12-E014-F17-Z1 (Z1 Equals 300% Elongation)

Stocked in 60 Durometer and made to order in 40, 50, 70 and 80 Durometer.



Style	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Style #1051 Branded**	Neoprene	Black	55-65	1,200 (1,000) [83 (69)]	Smooth	250	4.6 [2.5]	36, 48 [914, 1219]	1/16 thru 1/2 [1.6 thru 12.7]	-30°F to +200°F [-34°C to +93°C]	250 [17]
Style #5240	Neoprene	Black	35-45	1,700 (1,500) [117 (104)]	Smooth	500	3.9 [2.1]	36 [914]	MTO**	-40°F to +200°F	250 [17]
Style #5250	Neoprene	Black	45-55	1,800 (1,500) [124 (104)]	Smooth	400	4.0 [2.2]	36 [914]	1/8 [3.2]	-40°F to +200°F [-40°C to +93°C]	250 [17]
Style #5260	Neoprene	Black	55-65	1,800 (1,500) [124 (104)]	Smooth	300	4.0 [2.2]	36 [914]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-40°F to +200°F [-40°C to +93°C]	250 [17]

* Refer to "Sheet Rubber Tolerances," page 26.

** Made to Order.

NITRILE OIL-RESISTANT SHEET



Nitrile sheet is primarily used for applications where resistance to oil, solvents and fuels is required. Garlock offers several styles of nitrile sheet, each carrying different specifications.

Style #361 has a higher tensile strength and is a superior product in applications requiring improved physical properties such as abrasion resistance, tear strength and stretch.

- ASTM D2000-BF-618

Style #363 is a good quality, oil-resistant nitrile sheet.

- ASTM D2000-BF-610

Style #5340 is a soft, premium-grade, nitrile sheet with excellent resistance to vegetable and petroleum oils.

- ASTM D2000-5BG-413-A14-B14-E034

Style #5360 is a medium-hard, premium-grade nitrile sheet.

- ASTM D2000-5BG-615-A14-B14-E034

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

Style	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Style #361	Nitrile	Black	55-65	2,000 (1,800) [138 (124)]	Smooth	400	3.5 [1.9]	36 [914]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-30°F to +200°F [-34°C to 93°C]	250 [17]
Style #363 Branded	Nitrile	Black	55-65	1,200 (1,000) [83 (69)]	Smooth	300	3.8 [2.1]	36, 48 [914, 1219]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-30°F to +200°F [-34°C to 93°C]	150 [10]
Style #5340	Nitrile	Black	35-45	1,600 (1,300) [110 (90)]	Smooth	450	3.5 [1.9]	36 [914]	MTO**	-40°F to +200°F [-40°C to 93°C]	250 [17]
Style #5360	Nitrile	Black	55-65	2,000 (1,500) [138 (104)]	Smooth	300	3.7 [2.0]	36 [914]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-40°F to +200°F [-40°C to 93°C]	250 [17]

* Refer to "Rubber Sheet Tolerances," page 26.

** Made to Order.

NEOPRENE DIAPHRAGM SHEET

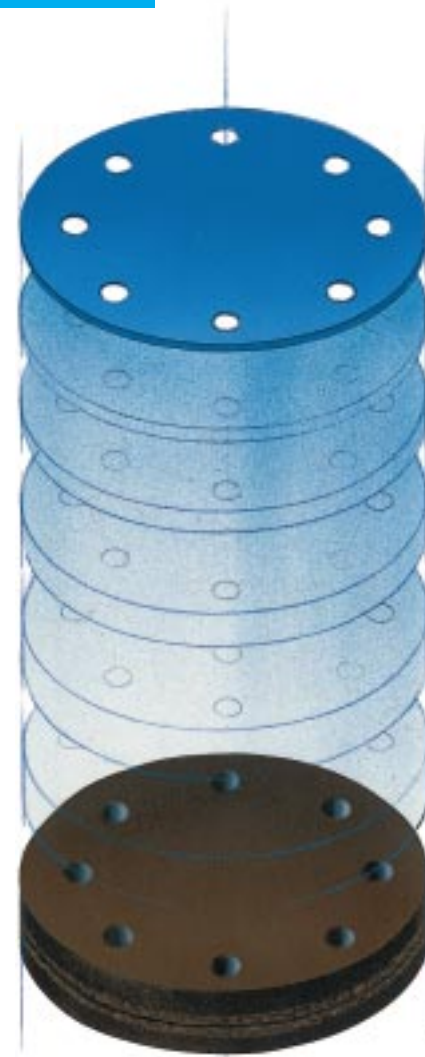
Each of these diaphragm sheets is manufactured with a high-quality compound designed for long service. Each is reinforced with high quality, square-woven duck to provide balanced structural strength over the entire area of the diaphragm. Recommended for control valves, regulators and pumps, they also make excellent weather strip materials.

Style #3205 is a 7.5 oz./sq. yd. (254 g/sq. m), polyester fabric with neoprene covers. Good oil resistance. One ply of fabric per 1/16" (1.6 mm) thickness.
• ASTM D2000-BC-714

Style #3206 is a 14.0 oz./sq. yd. (480 g/sq. m), cotton fabric with neoprene covers. Good oil resistance. One ply of fabric per 1/16" (1.6 mm) thickness.
• ASTM D2000-BC-714

Style #3207 is a 10.0 oz./sq. yd., (340 g/sq. m) strong nylon duck fabric with neoprene covers. Good oil resistance. One ply of fabric in 1/16" (1.6 mm) through 3/16" (4.8 mm) thicknesses. Two plies of fabric in 1/4" (6.4 mm) thickness.
• ASTM D2000-BC-714

Style #3210 is a 14.0 oz./sq. yd. (480 g/sq. m), strong nylon duck fabric with neoprene covers. Good oil resistance. One ply of fabric 1/16" (1.6 mm) through 3/16" (4.8 mm) thicknesses. Two plies of fabric in 1/4" (6.4 mm) thickness.
• ASTM D2000-BC-714



Mullen Burst Test Ratings For Fabric

Obtained using burst tester with 1.24-inch (31.5 mm) diameter opening. Per ASTM D751.

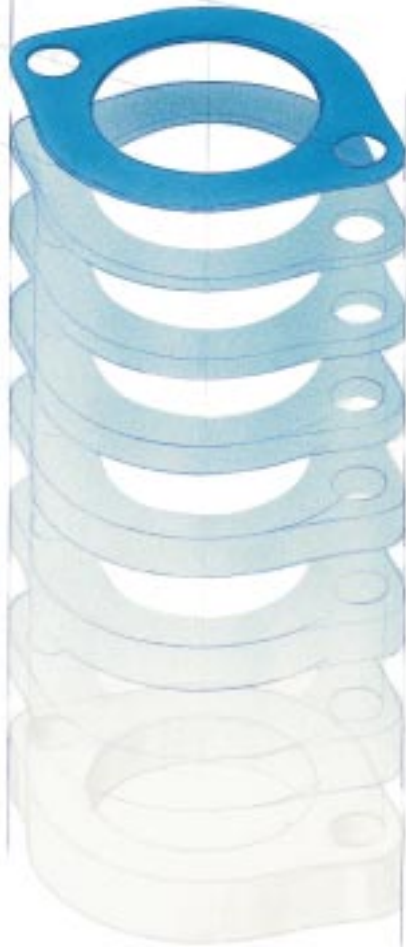
Style No.	1 Ply	2 Ply	3 Ply	4 Ply
3205	370 psig (26 bar)	860 psig (59 bar)	1000+ psig (69+ bar)	1000+ psig (69+ bar)
3206	315 psig (22 bar)	655 psig (45 bar)	950 psig (66 bar)	1000+ psig (69+ bar)
3207	1200+ psig (83+ bar)	—	—	—
3210	1200+ psig (83+ bar)	—	—	—

Product	Elastomer	Color	Durometer (Shore A) **	Typical Tensile psi [bar] (Minimum)**	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Wt. Fabric Oz./Yd ²	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Style #3205	Neoprene	Black	65-75	1,500 (1,400) [104 (97)]	Smooth	300	4.0 [2.2]	7.5 Polyester	56 [1422]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +200°F [-29°C to +93°C]	250 [17]
Style #3206	Neoprene	Black	65-75	1,500 (1,400) [104 (97)]	Smooth	300	3.5 [1.9]	14.0 Cotton	56 [1422]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +200°F [-29°C to +93°C]	250 [17]
Style #3207	Neoprene	Black	65-75	1,500 (1,400) [104 (97)]	Smooth	300	3.5 [1.9]	10.0 Nylon	56 [1422]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +200°F [-29°C to +93°C]	250 [17]
Style #3210	Neoprene	Black	65-75	1,500 (1,400) [104 (97)]	Smooth	300	4.0 [2.2]	14.0 Nylon	56 [1422]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +200°F [-29°C to +93°C]	250 [17]

* Refer to "Sheet Rubber Tolerances," page 26.

** Figures are for rubber compound without fabric.

FOOD GRADE SHEET



Garlock Food Grade Sheet is manufactured from Food and Drug Administration-approved ingredients. It is a superior, long-life sheet designed specifically for general gasketing, countertops and skirting in all areas of food processing and pharmaceutical and cosmetics manufacturing. Approved by USDA for meat and poultry processing.

Style #362 is a nitrile sheet made from FDA-approved ingredients per Z1 CFR 177.2600. It also meets “3A Sanitary Standards for Multiple-Use Rubber and Rubber-Like Materials used as product contact surfaces in dairy equipment,” Number 18-01, Class III and IV. It has good resistance to oily and greasy food products and abrasion. This sheet is non-marking.

- ASTM D2000-2BF-615-E034

Style #4160 is a natural rubber-based sheet made from FDA-approved ingredients per Z1 CFR 177.2600. It has excellent resistance to abrasion, but it is not recommended for oily or greasy applications.

- ASTM D2000-2AA-612-A13

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

Style	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Style #362	Nitrile	White	55-65	1,700 (1,500) [117 (104)]	Smooth	400	3.8 [2.1]	36, 48 [914, 1219]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +200°F [-29°C to +93°C]	250 [17]
Style #4160	Natural	Red	55-65	1,500 (1,200) [104 (83)]	Smooth	400	4.8 [2.6]	36 [914]	5/64, 3/32, 3/16 [2.0, 2.4, 4.8]	-20°F to +180°F [-29°C to +82°C]	250 [17]

* Refer to “Sheet Rubber Tolerances,” page 26.

CLOTH-INSERTED SHEET

Garlock cloth-inserted materials are designed to add stability where mechanical fastening is necessary, and to reduce gasket creep where heavy flange loading is required. For low line pressure applications such as air, hot and cold water, saturated steam and low pressure steam.

Multi-Ply C.I. is a smooth-finish SBR/NBR sheet constructed with polyester fabric. Designed to reduce creep in flanges. One ply of fabric per 1/16" (1.6 mm) thickness.

- ASTM D2000-BC-810-Z1 (Z1 equal to 70-80 Durometer)

Style #2102 C.I. is a smooth-finish SBR/NBR sheet, constructed with polyester fabric. One ply of fabric in 1/16" (1.6 mm) through 1/8" (3.2 mm) thicknesses. Two plies of fabric in 3/16" (4.8 mm) and 1/4" (6.4 mm) thicknesses.

- ASTM D2000-BC-810-Z1 (Z1 equal to 70-85 Durometer)

Style #70 C.I. Style #2102 quality with cloth impression. One ply of fabric in 1/16" (1.6 mm) and 1/8" (3.2 mm) thicknesses. Two plies of fabric in 3/16" (4.8 mm) and 1/4" (6.4 mm) thicknesses.

- ASTM D2000-BC-810-Z1 (Z1 equal to 70-85 Durometer)

Style #2564 is a smooth finish EPDM sheet, constructed with polyester fabric. One ply of fabric in 1/16" (1.6 mm) and 1/8" (3.2 mm) thicknesses. Two plies of fabric in 3/16" (4.8 mm) and 1/4" (6.4 mm) thicknesses. For some ozone exposed applications.

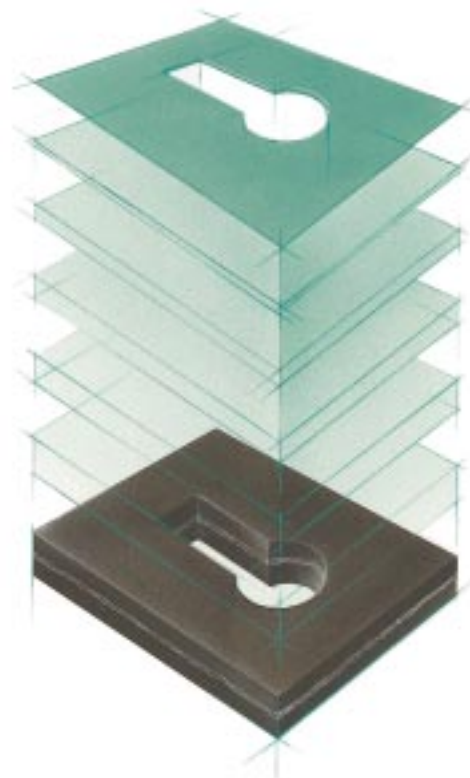
- ASTM D2000-2BA-608-C12

Style #2264 is a smooth finish NBR/CR/SBR sheet, constructed with polyester. For moderate oil resistant applications. One ply of fabric in 1/16" (1.6 mm) through 1/8" (3.2 mm) thicknesses. Two plies of fabric in 3/16" (4.8 mm) and 1/4" (6.4 mm) thicknesses.

- ASTM D2000-BC-608

Style #2361 is a smooth finish commercial-grade nitrile sheet constructed with polyester fabric. Good oil resistance. One ply of fabric in 1/16" (1.6 mm) through 1/8" (3.2 mm) thicknesses. Two plies of fabric in 3/16" (4.8 mm) and 1/4" (6.4 mm) thicknesses.

- ASTM D2000-BF-618



Product	Elastomer	Color	Durometer (Shore A)**	Typical Tensile psi [bar] (Minimum)**	Finish	Ultimate Elongation (% Min.)	Approx. Wt. Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Multi-Ply C.I.	SBR/NBR	Black	70-80	1,300 (1,000) [90 (69)]	Smooth	200	4.6 [2.5]	36, 48, 72 [914, 1219, 1829]	1/8, 3/16, 1/4 [3.2, 4.8, 6.4]	-20°F to +180°F [-29°C to +82°C]	150 [10]
Style #2102 C.I.	SBR/NBR	Black	70-80	1,300 (1,000) [90 (69)]	Smooth	200	4.6 [2.5]	36, 48, 72 [914, 1219, 1829]	1/16 thru 1/4 [1.6 thru 6.4]	-20°F to +180°F [-29°C to +82°C]	150 [10]
Style #70 C.I.	SBR/NBR	Black	70-80	1,300 (1,000) [90 (69)]	Cloth Finish	200	4.6 [2.5]	48 [1219]	1/16, 1/8 [1.6, 3.2]	-20°F to +180°F [-29°C to +82°C]	150 [10]
Style #2264	Blended NBR/CR/SBR	Black	55-65	1,100 (800) [76 (55)]	Smooth	300	3.9 [2.1]	36, 72 [914, 1829]	1/16, 1/8, 3/16, 1/4 [1.6, 3.2, 4.8, 6.4]	-20°F to +190°F [-29°C to +88°C]	150 [10]
Style #2361	Nitrile	Black	55-65	2,000 (1,800) [138 (124)]	Smooth	300	3.3 [1.8]	36, 72 [914, 1829]	MTO***	-20°F to +200°F [-29°C to +93°C]	250 [17]
Style #2564	EPDM	Black	55-65	1,200 (1,000) [83 (69)]	Smooth	300	3.5 [1.9]	36, 72 [914, 1829]	MTO***	-20°F to +250°F [-29°C to +121°C]	150 [10]

* Refer to "Sheet Rubber Tolerances," page 26.

*** Made to order.

** Figures are for rubber compound without fabric.

CHUTE LINING AND EXTRUDED SKIRTBOARD

Garlock features a complete line of products for protecting applications such as: belt wipers, chute lining, skirtboards, bumperstock, impact pads, laundry lining, sand and shot blast curtains, scraper stock, tumbler liners and many more. Garlock chute lining has been proven, through years of on-the-job service, to perform well. Super RINOHIDE™, in particular, performs with superior resistance to abrasion, impact, aging and weathering.

Super RINOHIDE™ #7160 is the most versatile protection material in the line. It is suitable for all of the above applications. It is made of specially compounded SBR to withstand severe impact and abrasion.

- ASTM D2000-BA-625

RINOBACK™ #3107 is also made from high-quality SBR, but is backed with one ply of 35 oz. (992 g) Silver Hard Duck fabric for better bolting or fastening capabilities. (2-ply duck fabric also available on minimum quantity orders.) Excellent for bumper stock, chute lining and impact pads.

- ASTM D2000-BA-625

Tan Gum #135 highest tensile strength, made of pure gum rubber, used for skirtboard, bumper stock, laundry lining, sand and shot blast curtains, scraper stock and tumbler liners.

- ASTM D2000-AA-430

Style #145 is an economical natural rubber which can be used in the same applications as Style #135.

- ASTM D2000-AA-428-21

Style #7164 is made of SBR and is most often used as chute lining. Other applications include belt wipers and laundry lining. An optional duck fabric backing is also available on minimum quantity orders.

- ASTM D2000-BA-620

Extruded Skirtboard is made of SBR. Standard sizes available:

1/4" (6.4 mm) gauge in widths of 4", 5", 6", 8", 10", 12", and 48" (102, 127, 152, 203, 254, 305, and 1219 mm)

3/8" (9.5 mm) gauge in widths of 4", 5", 6", 8", 10", 12", and 48" (102, 127, 152, 203, 254, 305, and 1219 mm).

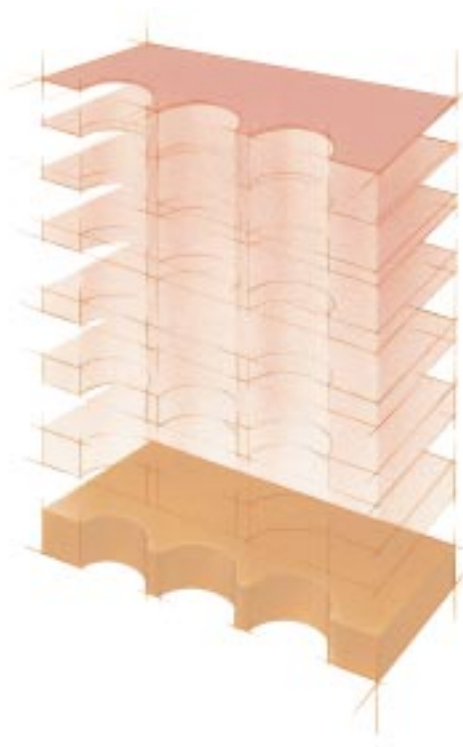
1/2" (12.7 mm) gauge in widths of 4", 5", 6", 8", 10", 12", and 48" (102, 127, 152, 203, 254, 305, and 1219 mm).

3/4" (19.1 mm) gauge in widths of 4", 6", 8", 10", and 12" (102, 152, 203, 254, and 305 mm)

1" (25.4 mm) gauge in widths of 6", 8", 10", and 12" (152, 203, 254, and 305 mm)

- ASTM D2000-AA-615

For widths not shown, contact Customer Service at (800) 643-0134.



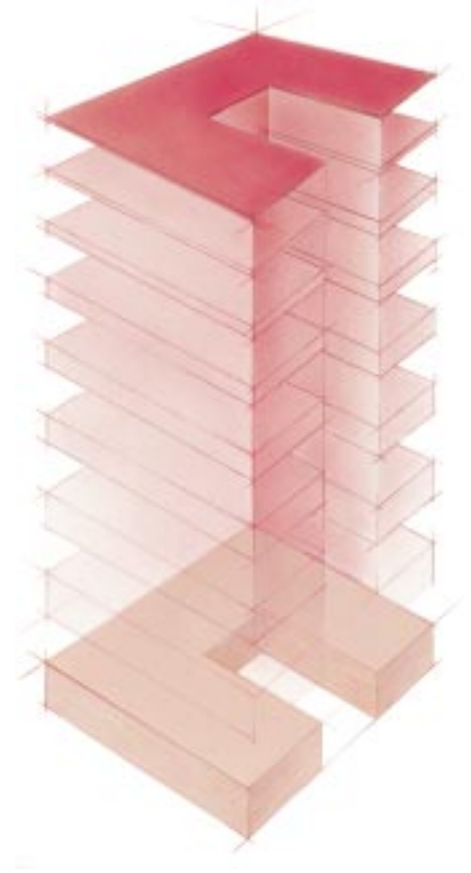
Product	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs/Yd ² [kg/m ²] 1/4" [6.4 mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range
Super RINOHIDE™	SBR	Black	55-65	2,800 (2,500) [193 (173)]	Smooth	500	1.5 [0.8]	48 [1219]	1/8 thru 1 [3.2 thru 25.4]	-20°F to +200°F [-29°C to +93°C]
RINOBACK™	SBR/ Cottonback	Black	55-65	2,800 (2,500) [193 (173)]	Smooth 1 side/ Fabric on other	500	1.4 [0.8]	48 [1219]	1/8, 1/4, 3/8 [3.2, 6.4, 9.5]	-20°F to +200°F [-29°C to +93°C]
Tan Gum Style #135	Natural	Tan	35-45	3,400 (3,000) [235 (207)]	Smooth	600	1.28 [0.7]	36, 48 [914, 1219]	1/4 thru 1 [6.4 thru 25.4]	-20°F to +180°F [-29°C to +82°C]
Style #145	Natural	Tan	40-50	3,100 (2,800) [214 (193)]	Smooth	550	3.2 [1.7]	36 [914]	1/16 thru 1 [1.6 thru 25.4]	-20°F to +180°F [-29°C to +82°C]
Style #7164	SBR	Black	55-65	2,400 (2,000) [166 (138)]	Smooth	300	1.70 [0.9]	48 [1219]	1/8 thru 1 [3.2 thru 25.4]	-20°F to +200°F [-29°C to +93°C]
Extruded Skirtboard	SBR	Black	55-65	1,800 (1,500) [124 (104)]	Cloth or Smooth	300	1.62 [0.9]	4 thru 12 [102 thru 305]	1/4 thru 1 [6.4 thru 25.4]	-20°F to +180°F [-29°C to +82°C]

* Refer to "Sheet Rubber Tolerances," page 26.

VIBLON™ CUSHIONING PADS

Garlock VIBLON™ pads are technically engineered and specifically designed to cushion impact, shock and vibration. Constructed of multiple layers of high-quality, cotton-polyester duck fabric, completely impregnated with specially designed nitrile compounds.

VIBLON™ is the answer to vibration, noise, impact, and shock problems. It is manufactured to the rigid requirements of Military Specification MIL-C-882-E, American Association of State Highway and Transportation Officials (AASHTO), and the Federal Bureau of Public Roads. Designed for use in bridge, industrial machinery and railroad applications. Test report and certifications will be furnished on request. Conforms to article 2.10.3 (1) AASHTO specifications.



WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

Product	Elastomer	Color	Maximum Compressive Load	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs./Yd ² [Kg/m ²] 1/16" [1.6 mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range
VIBLON™	Nitrile	Tan	10,000 psi [690 bar]	Smooth	Not Applicable	†	48 [1219]	1/8, 5/64, 11/32, 1/2, 3/4, 1 [3.2, 6.0, 8.7, 12.7, 19.1, 25.4]	-20°F to +200°F [-29°C to +93°C]

* Contact Customer Service for width and gauge tolerance.

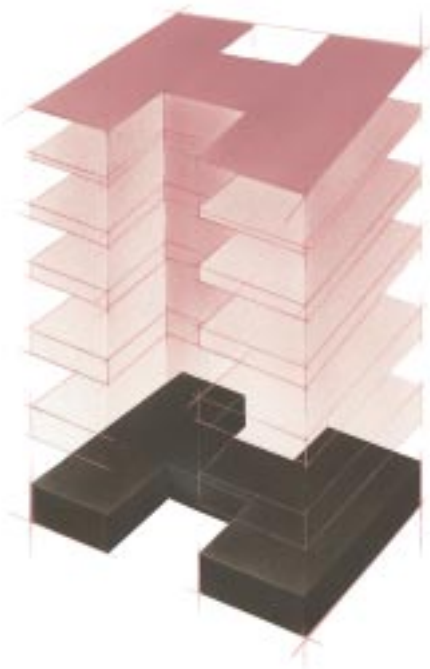
† Call customer service 1-800-643-0134.

NEOPRENE BEARING PADS

MEETS AASHTO SPECIFICATIONS

Garlock Neoprene Bearing Pads provide a uniform transfer of load from beam to substructure. They permit beam rotation at the bearing point due to deflection or misalignment. They absorb vibration and prevent sound transfer, while reducing the destructive action of vibration between movable and stationary structural members. They also provide for movement caused by normal expansion and contraction.

Neoprene Bearing Pads are used extensively in bridge structures and prestressed and precast concrete buildings. Also used in industrial machinery and heavy equipment applications. Three styles are available:



Style #256 is stocked in a 48" (1219 mm) width and is made from a high-quality neoprene. Duro-meter is 45-55 and its minimum ultimate elongation is 400%. **CUT SLABS ARE STOCKED AND AVAILABLE.**

Style #266 is stocked in a 48" (1219 mm) width and is made from a high-quality neoprene. Duro-meter is 55-65 and its minimum ultimate elongation is 350%. **CUT SLABS ARE STOCKED AND AVAILABLE.**

Style #276 is stocked in a 48" (1219 mm) width and is made from a high-quality neoprene. Duro-meter is 65-75 and its minimum ultimate elongation is 300%. **CUT SLABS ARE STOCKED AND AVAILABLE.**

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

ADDITIONAL MADE-TO-ORDER BEARING PADS AVAILABLE:

- Natural rubber bearing pad material for colder climates
- Cal-tran material for the State of California to meet section 51, item 51-1.12H(1)

Meets Standard Specifications for Highway Bridges, Fourteenth Edition 1989, Division II, Section 25 - Elastomeric Bearings, and AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 17th Edition, M251.

NOTE: Some states specify requirements other than standard AASHTO specifications. When ordering, identify all requirements or submit individual state specification.

Product	Elastomer	Color	Durometer (Shore A)	Typical Tensile psi [bar] (Minimum)	Finish	Ultimate Elongation (% Min.)	Approx. Wt Lbs./Yd ² [Kg/m ²] 1/16" [1.6 mm]	Minimum Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range
Style #256	Neoprene	Black	45-55	2,600 (2,250) [179 (155)]	Smooth	400	†	48 [1219]	1/8, 1/4, 1/2, 3/4, 1 [3.2, 6.4, 12.7, 19.1, 25.4]	-40°F to +200°F [-40°C to + 93°C]
Style #266	Neoprene	Black	55-65	2,800 (2,250) [193 (155)]	Smooth	350	†	48 [1219]	1/8, 1/4, 1/2, 3/4, 1 [3.2, 6.4, 12.7, 19.1, 25.4]	-40°F to +200°F [-40°C to + 93°C]
Style #276	Neoprene	Black	65-75	3,000 (2,250) [207 (155)]	Smooth	300	†	48 [1219]	1/8, 1/4, 1/2, 3/4, 1 [3.2, 6.4, 12.7, 19.1, 25.4]	-40°F to +200°F [-40°C to + 93°C]

*Refer to "Neoprene Bearing Pad Tolerances," page 26.

† Call customer service 1-800-643-0134.

HIGH PERFORMANCE SHEET RUBBER - 500 SERIES

Chemicals, oils and heat, taken together or individually, present critical and unique sealing applications. Sealing problems can be avoided by selecting sealing materials suited to the rigors of these applications.

To help you select the most appropriate material for your sealing application, Garlock has included in this catalog:

1. Chemical Resistance Chart
2. ASTM Specifications for all 500 Series Products
3. Safety Information, Specific Warnings and Maintenance Precautions that will assist in proper safety planning and material selection.

Style #9518 sheet rubber, made with VITON® fluoroelastomer, is a high-performance product resistant to heat, oils, fuels, numerous acids and other chemicals.

- ASTM D2000-2HK-710-B37-Z1 (Z1 equals durometer of 75±5 Shore A)

Style #505 is a branded, chlorinated polyethylene (CPE) sheet rubber product. CPE has excellent resistance to many chemical groups such as oils, acids, bases and alcohols. CPE is also very resistant to oxidation, heat and ozone.

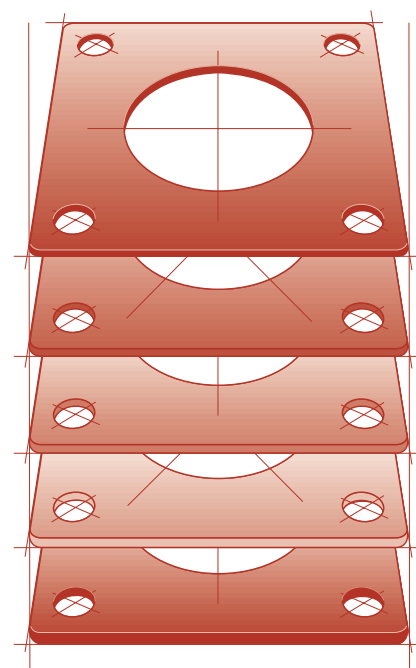
- ASTM D2000-2CE-718-B15

Style #506 sheet rubber, made with HYPALON® (chlorosulfonated polyethylene) synthetic rubber, is a high-performance product exhibiting excellent resistance to ozone, weathering, heat, certain chemicals and various oils.

- ASTM D2000-CE-618

STYLE #509 is a branded, chloro-butyl sheet rubber product, also referred to as "Butyl" sheet.

- ASTM D2000-CA-615



Physical Properties	Style 9518 (VITON®)	Style 505 (CPE)	Style 506 (HYPALON®)	Style 509 (Butyl)
Compression Set Meets ASTM Test D395, 22 hours at test temperature, % Max.	175°C (347°F) 50%	125°C (257°F) 60%	70°C (158°F) 80%	100°C (212°F) 60%
Resistance to Heat Meets ASTM D573 Heat Aged Test of 70 hrs at test temperature	250°C (482°F)	125°C (257°F)	125°C (257°F)	125°C (257°F)
Change in hardness, pts	±15	±15	±15	±15
Change in Tensile, %	± 30	± 30	± 30	± 30
Change in Elongation, % Max.	-50	-50	-50	-50
Specific Gravity	1.85	—	—	1.11
Oil Resistance Meets D471 Oil Immersion Test, No. 3 Oil, 70 hours at 150°C (302°F), Change in Volume, % Max	10	—	—	—

Product	Elastomer	Color	ASTM D2240 Durometer (Shore A)	Typical Tensile ASTM D412 psi [bar] (Minimum)	Finish	ASTM D412 Ultimate Elongation (% Min.)	Approx. Wt. Lbs/Yd ² [kg/m ²] 1/16" [1.6mm]	Width* Inches [mm]	Stock Gauge* Inches [mm]	Temperature Range	Pressure Maximum psig [bar] 1/8" [3.2mm]
Style #9518 Branded & Scented	VITON®	Black	70-80	1,300 (1,000) [90 (69)]	Smooth	175	5.4 [2.9]	36, 48 [914, 1219]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-15°F to +400°F [-26°C to +204°C]	250 [17]
Style #505 Branded	Chlorinated Polyethylene	Black	65-75	2,000 (1,800) [138 (124)]	Smooth	350	4.1 [2.2]	36 [914]	1/16, 1/8, 1/4 [1.6, 3.2, 6.4]	-20°F to +275°F [-29°C to +135°C]	250 [17]
Style #506	HYPALON®	Black	55-65	2,100 (1,800) [145 (124)]	Smooth	375	3.8 [2.1]	36 [914]	MTO**	-20°F to +300°F [-29°C to +149°C]	250 [17]
Style #509 Branded	Butyl	Black	55-65	1,800 (1,500) [124 (104)]	Smooth	350	3.3 [1.8]	36 [914]	1/16, 1/8, 3/16, 1/4 [1.6, 3.2, 4.8, 6.4]	-30°F to +300°F [-34°C to +149°C]	250 [17]

* Refer to "Sheet Rubber Tolerances," page 26.

** Made to Order.

VITON® and HYPALON® are registered trademarks of DuPont Dow Elastomers.

GARLOCK CHEMICAL RESISTANCE GUIDELINES

The following tables list the most commonly used materials, chemicals, solvents, oils, etc. The tables do not imply conformance to the Food and Drug Administration requirements or Federal or State Laws when handling food products, chemicals, or dangerous or toxic materials.

The following chemical list is offered as a guide to the chemical resistance properties of Garlock Style 9518, 505, and 509. It should be used as a guide only, since the degree of resistance of any elastomer to a particular fluid depends upon such

variables as temperature, fluid concentration, pressure conditions, velocity of flow, duration of exposure, aeration, stability of the fluid, etc.

Therefore, when in doubt, you should not rely solely on this guide in critical nature applications. Critical nature applications are those where personal safety, life and property damage could occur due to premature failure. Tests should be devised that simulate actual service conditions as nearly as possible.



WARNING:

Testing can be dangerous and should be done only by trained personnel using proper tools and procedures. Failure to follow such procedures might result in damage to property and serious bodily injury. Contact your GARLOCK representative for technical assistance.

RESTRICTIONS ON VITON® FLUROELASTOMER

Due to its extensive range of chemical resistance, the listings for Style 9518 are only partially shown in this publication.

Certain families of chemicals will attack and degrade parts made with VITON®. This chemical attack may cause Style 9518 to lose its ability to maintain a seal. These chemical groups include:

1. Low molecular weight ketones
2. Esters, such as ethyl acetate
3. Amines
4. Strong bases, such as sodium hydroxide
5. Alkyl phosphate esters
6. Hot anhydrous hydrofluoric acid
7. Chlorosulfonic acid
8. Hot concentrated alkalis
9. Some proprietary fluids such as SKYDROL 500A

For resistance to chemicals other than those in this listing, contact Garlock at (800) 643-0134.

MAINTENANCE AND INSPECTION

The user must regularly inspect all flange connections, valve connections, and sealing devices incorporating rubber as the sealing member, ***ESPECIALLY THOSE APPLICATIONS IN HIGH HEAT ENVIRONMENTS***. The inspection procedure should include periodic checks such as:

1. Check for signs of leakage around fluid sealing areas.
2. Use leak detection devices for gas leakage.
3. Monitor actual operating temperatures.
4. Examine old gaskets or parts for evidence of potential sealing problems—compression set, tears around flange bolts, brittleness, swelling or other physical degradation.
5. Use standardized industry data for installation methods, test methods for specific application tests: ASTM—Volumes 09.01 and 09.02 Rubber Products, Industrial.
6. Develop a preventive maintenance checklist and keep a log detailing inspection results.

CHEMICAL RESISTANCE CHART

	MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
Resistance Ratings:	ACETALDEHYDE	X	C	F
A Good Resistance — The product is usually suitable for service.	ACETIC ACID (GLACIAL)	X	F	A
	ACETIC ESTER (ETHYL ACETATE)	X	C	F
	ACETATE (VINYL ACETATE)	X	C	F
F Fair Resistance — The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.	ACETONE	X	F	F
	ACID CARBOLIC (PHENOL)	A	C	F
	ACID, HYDROCHLORIC 10%	A	A	F
	ACID, HYDROCHLORIC 37% (COLD)	A	A	F
	ACID, HYDROCHLORIC 37% (HOT)	F	F	F
C Depends on Condition — Moderate service may be possible if chemical expo- sure is limited or infrequent. Functionality must be deter- mined by testing.	ACID, NITRIC 10%	X	F	A
	ACID, NITRIC 37%	C	X	X
	ACID, NITRIC 70%	C	X	X
	ACID, NITRIC RED FUMING	X	X	X
X Not Recommended — The product is unsuitable for service.	ACID, PHOSPHORIC 20% to 45%	A	A	F
	ACID, STEARIC	A	F	F
	ACROLEIN	X	F	F
**At temperatures up to 180°F (82°C)	ACRYLONITRILE	C	C	X
For resistance to chemicals other than those listed here, contact Garlock at (800) 643-0134.	ALCOHOL, FURFURYL	C	C	X
	ALKYLAMINE (ETHYLAMINE)	X	C	F
	ALKYLAMINE (ISOPROPYLAMINE)	X	C	F
	ALUM	A	A	F
	ALUMINUM SULFATE	A	A	F
	2-AMINOETHANOL	X	F	F
	AMINO BENZENE	X	X	F
	AMINO ETHYLETHANOLAMINE	X	C	F
	AMINO RESINS	X	C	F
	AMMONIUM HYDROXIDE (38% MAX)	F	F	C
	AMMONIUM ALUM	A	F	C
	AMMONIUM NITRATE SOLUTIONS	F	A	A
	ANILINE DYES	F	F	F
	ANILINE OIL	X	X	F
	ANIMAL FATS	A	F	X

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

VITON® is a registered trademark of DuPont Dow Elastomers.

CHEMICAL RESISTANCE CHART

A

Good Resistance—
The product is usually suitable for service.

F

Fair Resistance—
The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.

C

Depends on Condition—
Moderate service may be possible if chemical exposure is limited or infrequent. Functionality must be determined by testing.

X

Not Recommended—
The product is unsuitable for service.

**At temperatures up to 180°F (82°C)

For resistance to chemicals other than those listed here, contact Garlock at (800) 643-0134.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
ANTI-FREEZE (ALCOHOL)	C	A	A
ANTI-FREEZE (GLYCOL)	F	A	A
AQUA REGIA	C	C	X
ARSENIC ACID	A	F	F
ASPHALT (150° F)	A	X	X
BENZENE (BENZOL)	A	X	X
BENZOIC ACID	A	C	X
BROMINE	A	X	X
BUNKER C	A	X	X
BUTANONE	X	X	F
BUTYL METHACRYLATE	X	X	X
CALCIUM CHLORIDE - 40%	A	A	A
CALCIUM HYDROXIDE	A	A	A
CARBON TETRACHLORIDE	A	X	X
CAUSTIC SODA (SODIUM HYDROXIDE)	X	A	A
CHLOROBENZENE	A	X	X
CHLOROFORM (TRICHLOROMETHANE)	A	X	X
COAL NAPHTHA	A	X	X
COAL OIL	A	X	X
COAL TAR	A	X	X
CORN OIL (NON-EDIBLE)	A	F	F
COTTONSEED OIL (NON-EDIBLE)	A	F	F
CREOSOTE OIL (CREOSOTE)	A	C	X
CRUDE OIL	A	C	X
CRUDE TAR	A	C	X
CUMENE	A	X	X
DECALIN	A	X	X
DEXTROSE (FOOD GRADE)	X	X	X
1, 2-DIAMINOETHANE	X	C	A
DIBROMOETHANE	F	X	X
o-DICHLOROBENZENE	A	X	X
DICHLOROMETHANE (METHYLENE CHLORIDE)	F	X	X

CHEMICAL RESISTANCE CHART

	MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
Resistance Ratings:	1, 2-DICHLOROPROPANE	F	X	X
A Good Resistance — The product is usually suitable for service.	DIESEL OIL	A	F	X
	DIETHANOLAMINE	X	C	F
	DIETHYLENE TRIAMINE	X	C	F
F Fair Resistance — The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.	1, 2-DIHYDROXYPROPANE	F	F	F
	DIMETHYL PHTHALATE	F	X	F
	ETHANOLAMINE	X	F	F
	ETHER, PETROLEUM (NAPHTHA)	A	C	X
	ETHYL ACETATE	X	X	F
C Depends on Condition — Moderate service may be possible if chemical expo- sure is limited or infrequent. Functionality must be deter- mined by testing.	ETHYL ACRYLATE (ETHYL PROPENOATE)	X	C	F
	ETHYL ALCOHOL (ETHANOL)	C	A	A
	ETHYLAMINE (70-72%)	X	F	F
	ETHYLENE CHOLOROHYDRIN	A	F	F
X Not Recommended — The product is unsuitable for service.	ETHYLENE DIBROMIDE	F	X	X
	ETHYLENE DICHLORIDE	A	X	X
	ETHYLENE GLYCOL	A	A	A
	ETHYLENE GLYCOL METHYL ETHER	X	F	F
	ETHYL METHYLACRYLATE	X	X	F
	FATTY ACIDS	A	F	F
	FORMALDEHYDE (FORMALIN) (40% max)	X	C	A
	FUEL OILS (No.'s 1, 2, 3, 4, 5, 6)	A	X	X
	FURFURAL	X	C	X
	FUSEL OIL	C	F	F
	GALLIC ACID	A	F	F
	GASOLINE	A	X	X
	GLUCOSE (FOOD GRADE)	X	X	X
	GLYCERINE (FOOD GRADE)	X	F	X
	GLYCOL (ANTI-FREEZE)	F	A	A
	GRAIN ALCOHOL	C	A	A
	GREASES	A	X	X

**At temperatures up to
180°F (82°C)

For resistance to chemicals other than
those listed here, contact Garlock
at (800) 643-0134.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

VITON® is a registered trademark of DuPont
Dow Elastomers.

CHEMICAL RESISTANCE CHART

A

Good Resistance—
The product is usually suitable for service.

F

Fair Resistance—
The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.

C

Depends on Condition—
Moderate service may be possible if chemical exposure is limited or infrequent. Functionality must be determined by testing.

X

Not Recommended—
The product is unsuitable for service.

**At temperatures up to 180°F (82°C)

For resistance to chemicals other than those listed here, contact Garlock at (800) 643-0134.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
Resistance Ratings:			
HEPTANE	A	C	X
HEXANE	A	C	X
HEXENE	A	C	X
HYDROBROMIC ACID 20%	A	A	F
HYDROCHLORIC - 10%	A	A	F
HYDROCHLORIC - 37% (COLD)	A	A	F
HYDROCHLORIC - 37% (HOT)	F	F	F
HYDROFLUORIC ACID (COLD)	A	A	C
HYDROFLUOSILICIC ACID (50% max)	A	A	F
HYDROGEN PEROXIDE (50% max)	F	A	C
HYDROGEN SULFIDE-WET	X	F	F
ISOPROPYLAMINE	X	C	F
JP-1, 3, 4, 5	A	C	X
JET FUEL	A	C	X
KEROSENE	A	C	X
LATEX (SYNTHETIC AND NATURAL)	F	C	X
LINSEED OIL	A	F	F
LIQUID ROSIN	A	X	X
MEK (METHYL ETHYL KETONE)	X	X	F
METHYL ALCOHOL	X	A	A
METHYL ACRYLATE	X	X	F
METHYL CHLOROFORM (1, 1, 1,-TRICHLOROMETHANE)	A	X	X
METHYLENE CHLORIDE	F	X	X
METHYL METHACRYLATE	X	X	X
METHYL OLEATE	F	X	F
MINERAL GREASES	A	F	X
MOLASSES (EDIBLE, FOOD GRADE)	X	X	X
MOLASSES (NON-EDIBLE)	A	A	A
MONOCHLOROBENZENE	A	X	X
NAPHTHA	A	C	X
NAPHTHA, COAL	A	C	X

CHEMICAL RESISTANCE CHART

	MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
Resistance Ratings:	NAPHTHALENE	A	C	X
A Good Resistance — The product is usually suitable for service.	NATURAL GASOLINE	A	X	X
	NITRIC ACID 10%	X	F	A
	NITRIC ACID 37%	C	X	X
	NITRIC ACID 70%	C	X	X
F Fair Resistance — The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.	OIL, COAL	A	X	X
	OIL, COTTONSEED (NON-EDIBLE)	A	F	F
	OIL, CREOSOTE	A	C	X
	OIL, CRUDE	A	C	X
C Depends on Condition — Moderate service may be possible if chemical expo- sure is limited or infrequent. Functionality must be deter- mined by testing.	OIL, DIESEL	A	C	X
	OIL, FUEL No. (1, 2, 3, 4, 5 and 6)	A	C	X
	OIL, LINSEED (NON-EDIBLE)	A	F	F
	OIL, LUBRICATING	A	C	X
	OIL, RESIDUAL	A	C	X
X Not Recommended — The product is unsuitable for service.	OIL, SOYBEAN (EDIBLE)	X	X	X
	OIL, SOYBEAN (NON-EDIBLE)	A	A	X
	OIL, STOVE (KEROSENE)	A	C	X
	OIL, TUNG	A	F	X
	OILS, VEGETABLE (EDIBLE)	X	X	X
	OILS, VEGETABLE (NON-EDIBLE)	A	A	X
	OLEIC ACID	F	F	X
	OLEUM (100%)	A	X	X
	PALMITIC ACID (10%)	A	F	F
	PARAFFIN (DEPENDS ON TEMP.)	A	A	X
	PENTANE	A	C	X
	PERCHLOROETHYLENE	F	X	X
	PETROLEUM ETHER	A	F	X
	PHENOL	A	C	F
	PHENYLAMINE (ANILINE)	X	C	F
	PHOSPHORIC ACID 20-45%	A	A	F
	POLYVINYL ACETATE EMULSIONS	X	F	A
	POTASSIUM ALUM	A	A	A

**At temperatures up to
180°F (82°C)

For resistance to chemicals other than
those listed here, contact Garlock
at (800) 643-0134.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

VITON® is a registered trademark of DuPont
Dow Elastomers.

CHEMICAL RESISTANCE CHART

A

Good Resistance—
The product is usually suitable for service.

F

Fair Resistance—
The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.

C

Depends on Condition—
Moderate service may be possible if chemical exposure is limited or infrequent. Functionality must be determined by testing.

X

Not Recommended—
The product is unsuitable for service.

**At temperatures up to 180°F (82°C)

For resistance to chemicals other than those listed here, contact Garlock at (800) 643-0134.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
POTASSIUM ALUMINUM SULFATE	A	A	A
POTASSIUM SULFATE	A	A	A
PROPYLENE DICHLORIDE	A	X	X
PROPYLENE GLYCOL	F	A	A
ROSIN, LIQUID	A	F	X
SODA CAUSTIC	X	A	A
SODIUM HYDROXIDE	X	A	A
SODIUM HYPOCHLORITE	A	A	F
SODIUM SILICATE	A	A	A
SOYBEAN OIL (NON-EDIBLE)	A	A	X
SOYBEAN OIL (EDIBLE)	X	X	X
STABILIZED FAT (NON-EDIBLE)	A	F	F
STABILIZED FAT (EDIBLE)	X	X	X
STARCH SYRUP (NON-EDIBLE)	A	A	F
STEARIC ACID	A	F	F
STODDARD SOLVENT	A	X	X
STYRENE (MONOMER)	F	X	X
SULFURIC ACID 10% 150°F	A	A	F
SULFURIC ACID 50% 100°F	A	A	F
SULFURIC ACID 75% 100°F	A	A	F
SULFURIC ACID 95% 70°F	A	A	X
SULFURIC ACID 96% AND HIGHER	A	X	X
SULFURIC ACID FUMING (140°F MAX)	F	X	X
SYRUP, CORN (NON-EDIBLE)	A	A	A
SYRUP, CORN (EDIBLE)	X	X	X
TALLOL	F	X	X
TALLOW (NON-EDIBLE)	A	F	F
TALLOW (EDIBLE)	X	X	X
TAR CRUDE	A	C	X
TETRACHLOROETHYLENE	A	X	X
TETRACHLOROMETHANE	A	X	X

CHEMICAL RESISTANCE CHART

	MATERIAL	STYLE 9518 VITON® FLUORO- ELASTOMER	STYLE 505 CPE**	STYLE 509 BUTYL**
Resistance Ratings:	TETRALIN	A	X	X
A Good Resistance — The product is usually suitable for service.	TOLUENE	A	X	X
	TRICHLOROETHANE	A	X	X
	TRICHLOROETHYLENE	A	X	X
	TRICHLOROMETHANE (CHLOROFORM)	A	X	X
F Fair Resistance — The chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.	TUNG OIL	A	F	X
	TURPENTINE	A	X	X
	UREA	F	A	F
	VARNISH	A	X	X
C Depends on Condition — Moderate service may be possible if chemical expo- sure is limited or infrequent. Functionality must be deter- mined by testing.	VEGETABLE GREASES	A	F	F
	VEGETABLE OILS (NON-EDIBLE)	A	F	F
	VEGETABLE OILS (EDIBLE)	X	X	X
	VINEGAR (EDIBLE)	X	X	X
	VINYL ACETATE (INHIBITED)	X	X	F
X Not Recommended — The product is unsuitable for service.	VINYL BENZENE (STYRENE)	F	X	X
	VINYL TOLUENE	X	X	X
	WATER GLASS	A	A	A
	WHITE SPIRITS (NAPHTHA)	A	C	X
	XYLENE	F	X	X

**At temperatures up to
180°F (82°C)

For resistance to chemicals other than
those listed here, contact Garlock
at (800) 643-0134.

WARNING!

Exposure to chemicals, fuels, oils or heat can affect the performance of sheet rubber and cause the product to lose its ability to maintain a seal, causing leakage or other failure which could result in property damage, serious injury or death. Since each application is unique, consult Customer Service at (800) 643-0134 or fax (800) 325-0506 for further information.

ELASTOMERS AND PERFORMANCE CHARACTERISTICS

ELASTOMER TYPE	PERFORMANCE CHARACTERISTICS
<p>Butyl</p> <p>IIR (isobutylene-isoprene)</p>	<p>+ Excellent resistance to acids and alkalis.</p> <p>Excellent weathering properties and heat resistance.</p> <p>Excellent electrical resistance. Low permeability to air.</p> <p>- Poor resistance to fuels, solvents, oils and hydrocarbons.</p> <p>Cold weather properties are fair.</p>
<p>CPE</p> <p>(Chlorinated Polyethylene)</p>	<p>+ Excellent oxidation resistance.</p> <p>Good oil resistance, heat resistance, ozone resistance and weather resistance.</p> <p>Fair resistance to ketones and ethers.</p> <p>- Poor cold weather properties.</p>
<p>HYPALON®</p> <p>(Chlorosulfonated Polyethylene) (HYPALON®, a registered trademark of DuPont Dow Elastomers)</p>	<p>+ Good oil resistance, ozone resistance, heat resistance and weather resistance. Resists corrosive chemicals.</p> <p>- Fair resistance to ketones and ethers. Tear resistance is fair.</p> <p>Poor resistance to aldehydes, aromatic solvents, esters, and chlorinated solvents.</p>
<p>EPDM</p> <p>(ethylene-propylene diene)</p>	<p>+ Excellent resistance to ozone, sunlight and oxygen.</p> <p>Excellent resistance to acids, alkalis and ketones.</p> <p>Excellent heat resistance and aging.</p> <p>- Poor resistance to fuels and oils.</p>
<p>Fluoroelastomer</p> <p>(VITON® fluoroelastomer, a registered trademark of DuPont Dow Elastomers)</p>	<p>+ Excellent resistance to heat and oil combinations: hot greases found in engines and compressors.</p> <p>Excellent resistance to a wide range of concentrated acids.</p> <p>- High cost of fluoroelastomer may limit usage to extreme applications. Resilience is low and tear strength is limited unless certain compounding steps are taken to improve it. Impact resistance is fair.</p>
<p>SBR</p> <p>(Styrene butadiene)</p>	<p>+ Good abrasion resistance and excellent impact and cut-and-gouge resistance. Can be compounded for use as skirtboard rubber, lining rubber, conveyor belt covers, tires and other extremely demanding applications. Used as gasket material and as an economical general purpose sheet.</p> <p>- Not suited for use with oils, fuels, solvents, or hydraulic fluids.</p>

ELASTOMERS AND PERFORMANCE CHARACTERISTICS

ELASTOMER TYPE	PERFORMANCE CHARACTERISTICS
Silicone	<ul style="list-style-type: none"> + Excellent properties for both hot and cold temperature extremes; excellent weathering properties; resists ozone and oxygen attack. Long service life can be expected at 200°F to 400°F (93°C to 204°C). - Poor resistance to oils, fuels, and hydrocarbons. Fair performance when exposed to acids, alkalis and solvents. Physical properties (tensile, abrasion, tear and cut growth) are fair.
Natural rubber NR (Gum)	<ul style="list-style-type: none"> + Good gasket material due to excellent physical properties such as resilience, tear strength and wear resistance. Natural rubber is used effectively as sand and shot blast curtain material because of its high abrasion resistance and resilience. - Deteriorates when exposed to oils, fuels, solvents, and hydraulic fluids. Poor resistance to sunlight, ozone and oxygen.
Neoprene CR (chloroprene)	<ul style="list-style-type: none"> + Good oil- and petroleum-based solvent resistance. Good weather and ozone resistance. Neoprene may be blended with SBR rubber to achieve an economically priced sheet for moderately oil resistant applications. - Poor resistance to degreaser solvents. Content levels of neoprene can vary widely. Application problems may occur when using blended or commercial grades of neoprene sheet of unknown quality levels in contact with oil, solvents and fuels. <p>Where good oil or fuel resistance is required, the fabricator and user need to specify one of the following:</p> <ul style="list-style-type: none"> • A known manufacturer's product • An ASTM call-out • A military specification • An ASTM-specified oil resistance level based on an ASTM test (e.g. oil swell)
Nitrile (butadiene-acrylonitrile)	<ul style="list-style-type: none"> + Excellent resistance to oils, solvents and fuels. <p>Resistant to a broader range of aromatic hydrocarbons than neoprene. Nitrile may be blended with SBR rubber to achieve an economically priced sheet for moderately oil resistant applications.</p> <ul style="list-style-type: none"> - Application problems may occur when using nitrile of unknown quality levels in extreme oil resistance applications or in contact with fuels and solvents. <p>Content levels of nitrile can vary widely.</p> <p>Where oil or fuel resistance is required, the fabricator and user need to specify one of the following:</p> <ul style="list-style-type: none"> • A known manufacturer's product • An ASTM call-out • A military specification • An ASTM-specified oil resistance level based on an ASTM test (e.g. oil swell)

NON-STOCK ITEMS

Information Necessary for Custom Manufacturing

A complete description of the product requirements and proposed service conditions should be furnished. This will enable us to quote the proper grade for best service at the lowest cost. Any samples submitted should be at least a 12 inch (300 mm) square. Use the following checklist to furnish data:

Description

1. Thickness, width and length
2. Tolerance (commercial or special)
3. Quantity
4. Durometer ± 5 (Shore A)
5. Tensile strength
6. Elongation
7. Cloth-inserted (C.I.)
8. Cloth—one side (C.O.S.)
9. Cloth—both sides (C.B.S.)
10. All rubber
11. Surface (smooth, cloth impression)
12. Color
13. Untrimmed or trimmed to size

Service Conditions

1. Temperature
2. Heat (air, steam, water, oil)
3. Oil (type and extent of contact)
4. Chemicals
5. Concentration of chemical (%)
6. Partially or totally confined gasket
7. Abrasive condition(s)
8. Ozone
9. Other pertinent data

Specifications to be Met

1. Government
2. ASTM or SAE
3. Customer
4. Blueprint
5. Other

If you need sheet products other than those in this catalog, let us know your requirements. We have complete facilities to make a wide variety of custom products, using our formulations or your specifications.

Products can be manufactured with a variety of surface impressions from smooth to cotton fabric, fine or coarse nylon.

Non-Stock Items—Minimum Manufacturing Requirements

For unsupported sheet, diaphragm and cloth-inserted sheet

	Widths		
	36" (914 mm)	48" (1219 mm)	72" (1828 mm)
3/8" (9.5 mm) gauge and under	800 Lin. ft. (244 Lin. m)	400 Lin. ft. (122 Lin. m)	400 Lin. ft. (122 Lin. m)
1/2" (12.7 mm) gauge and above	150 Lin. ft. (46 Lin. m)	150 Lin. ft. (46 Lin. m)	

Quantity variance on made-to-order products $\pm 20\%$

Sheet Rubber Tolerances

Thickness	Tolerance	
	Inches	mm
1/32" (0.8 mm)	$\pm .012$	± 0.3
1/16" (1.6 mm) but not including 1/8" (3.2 mm)	$\pm .016$	± 0.4
1/8" (3.2 mm) but not including 3/16" (4.8 mm)	$\pm .020$	± 0.5
3/16" (4.8 mm) but not including 3/8" (9.5 mm)	$\pm .031$	± 0.8
3/8" (9.5 mm) but not including 9/16" (14.3 mm)	$\pm .047$	± 1.2
9/16" (14.3 mm) but not including 3/4" (19.1 mm)	$\pm .063$	± 1.6
3/4" (19.1 mm) but not including 1" (25.4 mm)	$\pm .093$	± 2.4
1" (25.4 mm) and over	$\pm 10\%$	
Width	Tolerance	
36" (914 mm) and over	$\pm 1"$	± 25.4

Sheet Rubber Tolerances—Neoprene Bearing Pads

Thickness	Tolerance	
1" (25.4 mm) and below	-0, + 1/8"	-0, + 3.2
Above 1" (25.4 mm)	-0, + 1/4"	-0, + 6.4
Width	Tolerance	
1" (25.4 mm) gauges and below on widths 36" (914 mm) and 48" (1219 mm)	-0, + 1"	-0, + 25.4
Above 1" (25.4 mm)	1"	25.4

ASTM Specifications

If you have other applications requiring other ASTM specifications not listed, please contact customer service at (800) 643-0134.

ORDERING AND SERVICE INFORMATION

Garlock Rubber Technologies is one of North America's most advanced manufacturers of industrial sheet rubber for gasketing, cushioning and protecting applications. Garlock offers a full line of sheet rubber products suited for a variety of end-use applications.

Garlock serves end users through a worldwide network of industrial distributors who fabricate a

variety of parts from our sheet products using many state-of-the-art techniques.

Garlock distributors modify and enhance our high-quality sheet products. The teamwork among Garlock, distributors and end users allows us to offer a complete package, ensuring high performance and top quality for all your rubber product applications.

Important Information You Should Know

ANSI/ASTM D 2000

American National Standards Institute
American Society for Testing and Materials

Are your rubber products meeting these standards or are you creating possible problems for you and your company?

ANSI / ASTM standards give you the assurance you are receiving the quality you deserve.

Know what you're buying in a global economy.

Do you know that some products like commercial grade neoprene can contain very little neoprene and in some cases no neoprene at all? If the price is extremely low, it's more than likely you're not getting what you really want or need.

To ensure that you get what you pay for, buy rubber by the foot or yard, not by the pound. You get more

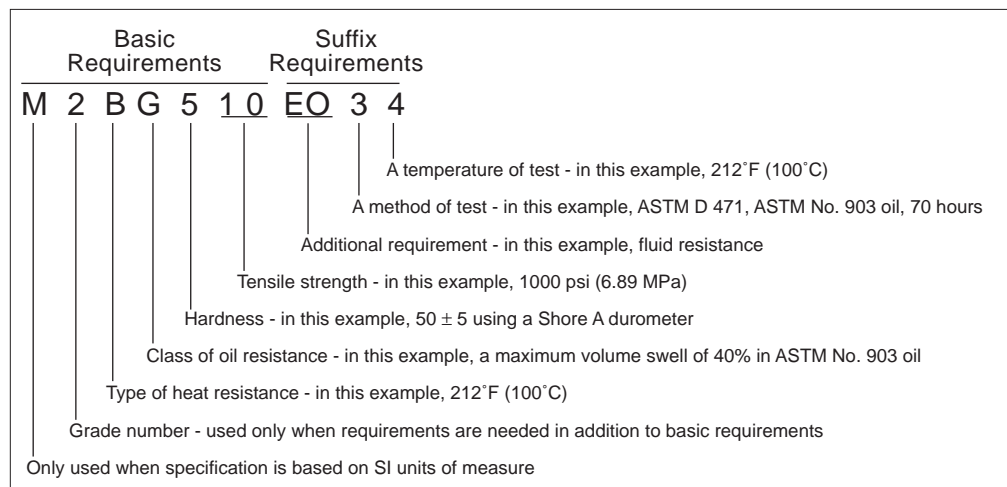
material for the money and the best yield. Remember, rubber polymers weigh less than a lot of cheaper fillers like calcium carbonate or clay.

Guidelines to use when buying rubber products

- Use **ANSI/ASTM D 2000** Standards when ordering rubber products and be sure you verify these standards with your supplier.
- Buy rubber products by the foot or yard for better yields. Be sure to verify pounds vs. yields with your supplier.
- **Buy from Garlock Rubber Technologies—Quality products made with pride in the U.S.A.**

1-800-643-0134 Phone • 1-800-325-0506 Fax

ASTM D 2000 Line Callout



METRIC CONVERSION CHARTS

METRIC CONVERSION TABLE

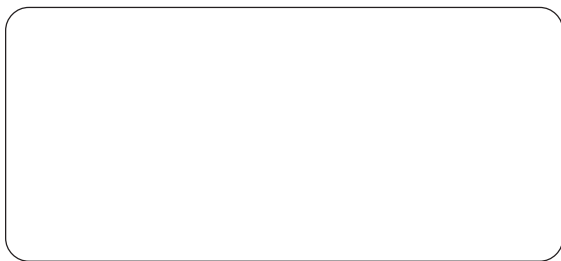
Millimeters x .03937 = inches	Liters ÷ 28.316 = cubic feet
Millimeters ÷ 25.4 = inches	Hectoliters x 3.531 = cubic feet
Centimeters x 0.3937 = inches	Hectoliters x 2.84 = bushels (2150.42 cubic inches)
Centimeters ÷ 2.54 = inches	Hectoliters x .131 = cubic yards
Meters x 39.37 = inches (Act of Congress)	Hectoliters ÷ 26.42 = gallons (231 cubic inches)
Meters x 3.281 = feet	Grams x 15.432 = grains (Act of Congress)
Meters x 1.094 = yards	Grams ÷ 981 = dynes
Kilometers x .621 = miles	Grams (water) ÷ 29.57 = fluid ounces
Kilometers = 1.6093 = miles	Grams ÷ 28.35 = ounces avoirdupois
Kilometers x 3280.8693 = feet	Grams per Cu. Cent. ÷ 27.7 = pounds per cubic inch
Square Millimeters x .00155 = square inches	Joule x .7373 = foot pounds
Square Millimeters ÷ 645.1 = square inches	Kilograms x 2.2046 = pounds
Square Centimeters x .155 = square inches	Kilograms x 35.3 = avoirdupois
Square Centimeters ÷ 6.451 = square inches	Kilograms ÷ 907.2 = tons (2,000 pounds)
Square Meters x 10.764 = square feet	Kilograms per Sq. Cent. x 14.223 = pounds per square inch
Square Kilometers x 247.1 = acres	Kilogram-meters x 7.233 = foot pounds
Hectare x 2.471 = acres	Kilograms per Meter x .062 = pounds per foot
Cubic Centimeters ÷ 16.383 = cubic inches	Kilograms per Cu. Meter x .062 = pounds per cubic foot
Cubic Centimeters ÷ 3.69 = foot drams (USP)	Tonneau x 1.1023 = tons (2,000 pounds)
Cubic Centimeters ÷ 29.57 = fluid ounces (USP)	Kilowatts x 1.34 = horse power
Cubic Meters x 35.315 = cubic feet	Watts ÷ 746 = horse power
Cubic Meters x 1.308 = cubic yards	Watts x .7373 = foot pounds per second
Cubic Meters x 264.2 = gallons (213 cubic inches)	Calorie x 3.968 = BTU
Liters x 61.022 = cu. in. (Act of Congress)	Cheval Vapeau ÷ .9863 = horse power
Liters x 33.84 = fluid ounces (USP)	(Centigrade x 1.8) + 32 = degrees Fahrenheit
Liters x .2642 = gallons (231 cubic inches)	Gravity Paris = 980.94 centimeters per second
Liters ÷ 3.78 = gallons (231 cubic inches)	

MILLIMETER TO INCH CONVERSION

1 Inch = 25.4 mm

mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
1	0.039370	26	1.023622	51	2.007874	76	2.992126	101	3.976378	126	4.960630	151	5.944882	176	6.929134
2	0.078740	27	1.062992	52	2.047244	77	3.031496	102	4.015748	127	5.000000	152	5.984252	177	6.968504
3	0.118110	28	1.102362	53	2.086614	78	3.070866	103	4.055118	128	5.039370	153	6.023622	178	7.007874
4	0.157480	29	1.141732	54	2.125984	79	3.110236	104	4.094488	129	5.078740	154	6.062992	179	7.047244
5	0.196850	30	1.181102	55	2.165354	80	3.149606	105	4.133858	130	5.118110	155	6.102362	180	7.086614
6	0.236220	31	1.220472	56	2.204724	81	3.188976	106	4.173228	131	5.157480	156	6.141732	181	7.125984
7	0.275591	32	1.259843	57	2.244094	82	3.228346	107	4.212599	132	5.196851	157	6.181102	182	7.165354
8	0.314961	33	1.299213	58	2.283465	83	3.267717	108	4.251969	133	5.236221	158	6.220473	183	7.204725
9	0.354331	34	1.338583	59	2.322835	84	3.307087	109	4.291339	134	5.275591	159	6.259843	184	7.244095
10	0.393701	35	1.377953	60	2.362205	85	3.346457	110	4.330709	135	5.314961	160	6.299213	185	7.283465
11	0.433071	36	1.417323	61	2.401575	86	3.385827	111	4.370079	136	5.354331	161	6.338583	186	7.322835
12	0.472441	37	1.456693	62	2.440945	87	3.425197	112	4.409449	137	5.393701	162	6.377953	187	7.362205
13	0.511811	38	1.496063	63	2.480315	88	3.464567	113	4.448819	138	5.433071	163	6.417323	188	7.401575
14	0.551181	39	1.535433	64	2.519685	89	3.503937	114	4.488189	139	5.472441	164	6.456693	189	7.440945
15	0.590551	40	1.574803	65	2.559055	90	3.543307	115	4.527559	140	5.511811	165	6.496063	190	7.480315
16	0.629921	41	1.614173	66	2.598425	91	3.582677	116	4.566929	141	5.551181	166	6.535433	191	7.519685
17	0.669291	42	1.653543	67	2.637795	92	3.622047	117	4.606299	142	5.590551	167	6.574803	192	7.559055
18	0.708661	43	1.692913	68	2.677165	93	3.661417	118	4.645669	143	5.629921	168	6.614173	193	7.598425
19	0.748031	44	1.732283	69	2.716535	94	3.700787	119	4.685039	144	5.669291	169	6.653543	194	7.637795
20	0.787402	45	1.771654	70	2.755906	95	3.740157	120	4.724410	145	5.708662	170	6.692914	195	7.677165
21	0.826772	46	1.811024	71	2.795276	96	3.779528	121	4.763780	146	5.748032	171	6.732284	196	7.716536
22	0.866142	47	1.850394	72	2.834646	97	3.818898	122	4.803150	147	5.787402	172	6.771654	197	7.755906
23	0.905512	48	1.889764	73	2.874016	98	3.858268	123	4.842520	148	5.826772	173	6.811024	198	7.795276
24	0.944882	49	1.929134	74	2.913386	99	3.897638	124	4.881890	149	5.866142	174	6.850394	199	7.834646
25	0.984252	50	1.968504	75	2.952756	100	3.937008	125	4.921260	150	5.905512	175	6.889764	200	7.874016

AUTHORIZED DISTRIBUTOR



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 registered trademark for packings, seals, gaskets, and other products of Garlock. © 2000, GARLOCK, All rights reserved worldwide.



Garlock Rubber Technologies
201 Dana Drive
Paragould, AR 72450
Phone: 870-239-4051
800-643-0134
Fax: 870-239-4054
800-325-0506

Other Garlock facilities are located in:

Palmyra, NY, USA	1-800-448-6688	Fax: 1-315-597-3216
Columbia, SC, USA	1-803-783-1880	Fax: 1-803-783-4279
Houston, TX, USA	1-281-459-7200	Fax: 1-281-458-0502
Sydney, Australia	61-2-9793-2511	Fax: 61-2-9793-2544
São Paulo, Brazil	55-11-884-9680	Fax: 55-11-884-9680
Oakville, Canada	1-905-829-3200	Fax: 1-905-829-3333
Berkshire, England	44-1635-38509	Fax: 44-1635-569573
Saint-Étienne, France	33-4-7743-5100	Fax: 33-4-7743-5151
Neuss, Germany	49-2131-3490	Fax: 49-2131-349-222
Seoul, Korea	822-554-6341	Fax: 822-554-6343
Mexico City, Mexico	52-5-567-7011	Fax: 52-5-368-0418
Singapore	65-254-7372	Fax: 65-254-6708



Printed on Recycled Paper

PRINTED IN U.S.A.

GRT 1:1

GPS-6/00-Rev C-1M