

WARCO®

West American Rubber Company, LLC

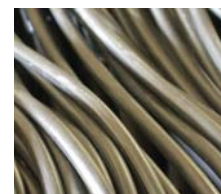
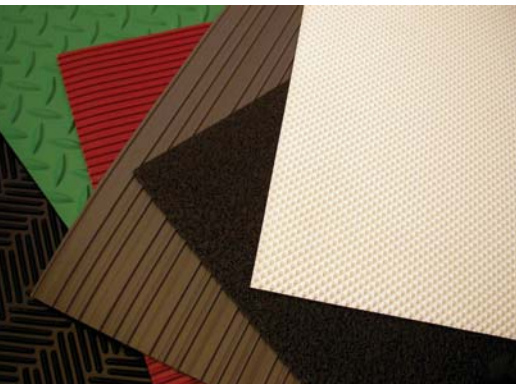
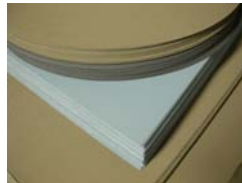
BILTRITE®

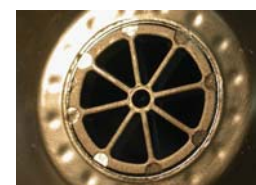
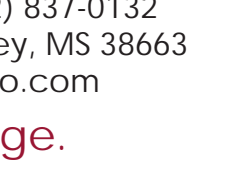
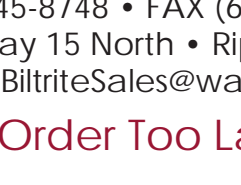
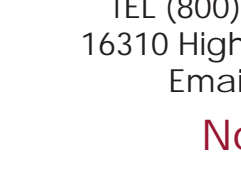
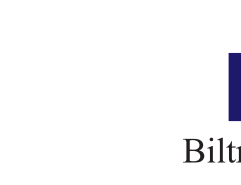
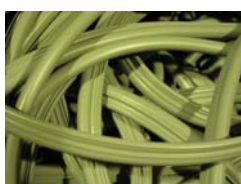
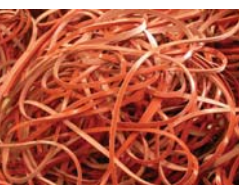
Biltrite Ripley Operations, LLC

Our combined strengths make us
America's choice for quality rubber.™



visit us at warco.com





WARCO®

West American Rubber Company, LLC
TEL (714) 532-3355 • FAX (714) 532-2238
1413 Braden Court • Orange, CA 92868
Email: Sales@warco.com

No Order Too Small.

BILTRITE®

Biltrite Ripley Operations, LLC
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16310 Highway 15 North • Ripley, MS 38663
Email: BiltriteSales@warco.com

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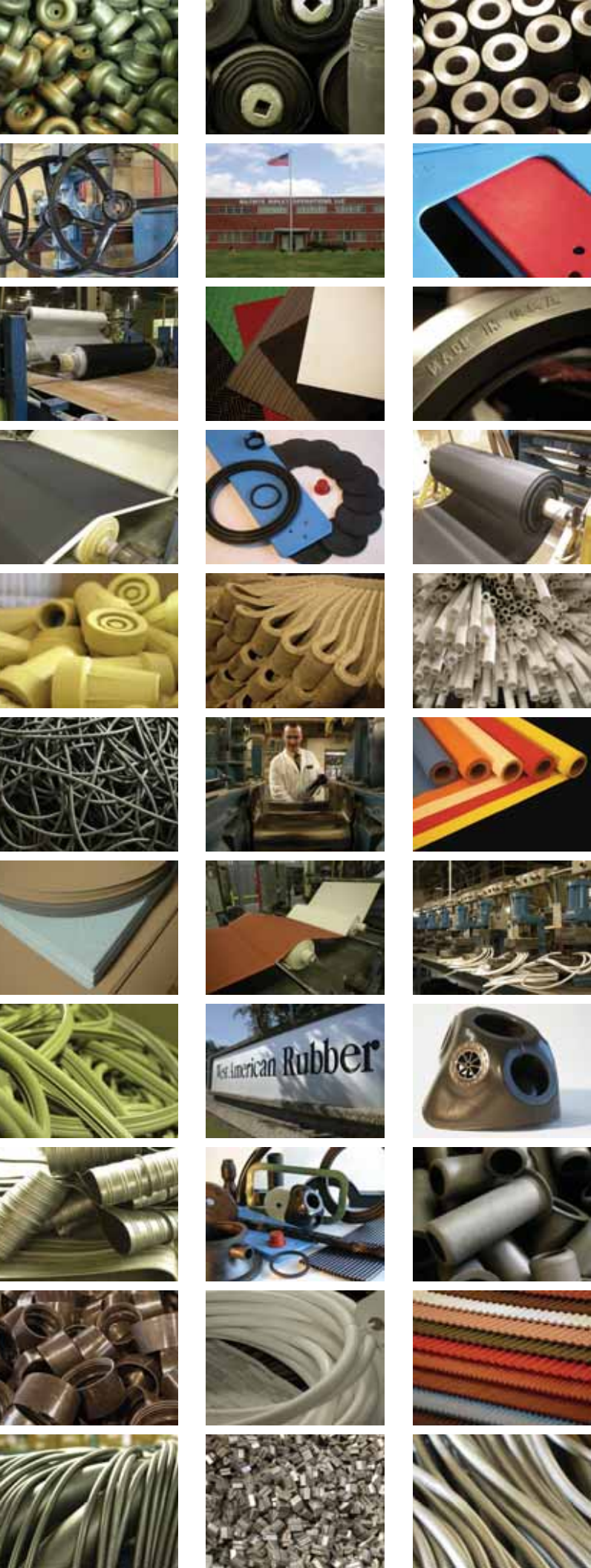


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WARCO® BILTRITE®
 America's choice for quality rubber.™

visit us at warco.com

GENERAL PRODUCTION INFORMATION

- **WARCO BILTRITE is a Custom Rubber Manufacturer.** Please contact our sales department for quotations on any sheeting, matting, extrusion, or molded rubber products not featured in our catalog. Additionally, we would be pleased to quote you on any custom molding, extrusion, sheet, mats or matting products. For quotes, please contact customer service:

California: 714-532-3355 (Tel) ▪ 714-532-2238 (Fax) ▪ sales@warco.com (Email)
Mississippi: 800-245-8748 (Tel) ▪ 662-837-0132 (Fax) ▪ bilritesales@warco.com (Email)

- **Sheet Rubber Roll Width:** Trimmed rolled rubber is provided in 36" and 48" wide $\pm 1"$ as standard rolls. Untrimmed rolls can measure approximately an additional 3 inches in width. Custom widths are also available.

- **Sheet Rubber Roll Length*:** Standard Roll approximate length, $\pm 10\%$ for most styles up to 1/2" thick.

1/64" thick - 180 feet	3/16" thick - 30 feet
1/32" thick - 150 feet	1/4" thick - 50 feet
1/16" thick - 100 feet	5/16" thick - 30 feet
3/32" thick - 65 feet	3/8" thick - 30 feet
1/8" thick - 50 feet	1/2" thick - 30 feet

* Roll lengths are subject to change without notice and/or may differ by style.

- **Sheet Rubber Roll Thickness:** Thickness Tolerance - Standard RMA (closer tolerances can be priced on request):

.031" and thinner $\pm .010"$.187" to .374" $\pm .031"$
.032" to .061" $\pm .012"$.375" to .500" $\pm .047"$
.062" to .124" $\pm .016"$.501" to .750" $\pm .094"$
.125" to .186" $\pm .020"$.751" and thicker $\pm 10\%$

- **Sheet Rubber Finish:** Unless otherwise noted, sheet rubber has a standard smooth finish. Textured (fabric) finish and matte finish are available on most materials at an additional cost. Please call for details.
- **Sheet Rubber Color:** The standard color of our sheet rubber is black, unless noted otherwise. Custom colors and color matching is available.
- **Test Reports:** Short term test results, basic physicals, are available at a cost. Full test reports to particular specifications will be quoted on request. Certifications are sent with your order upon request at no charge.
- **ASTM and Product Physical Values:** ASTM basic requirements for physical properties are based on values obtained from standard laboratory test specimens prepared and tested in accordance with the applicable ASTM test methods. Test results from specimens prepared from finished products may not duplicate values obtained from standard test specimens. Per ASTM D2000, Section 7.1, Buyer agrees that when standard test specimens are cut from finished parts in accordance with Practice D 3183, a deviation to the extent of 10% on tensile strength and elongation values is permissible.

When you need quality rubber products fast, call WARCO BILTRITE.
We deliver.

WARCO®

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TEL (714) 532-3355 • FAX (714) 532-2238
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SATRA Quality Assurance and ISO 9001:2000 Certified

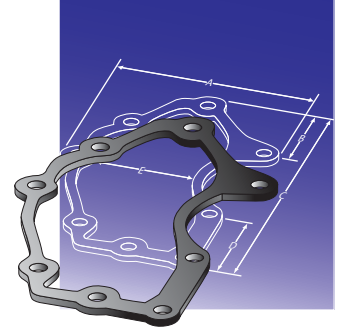
SPECIFICATION

Military Specification Grade

ASTM D 2000 Specification Grade

Aerospace Material Specification Grade

SPECIFICATION GRADE SHEET



Military Specification

MIL-R-3065 SC (Neoprene)

Specifications	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-3065 SC 310 F2	30	1/32 thru 1/4	36, 48	1500	550	-60°F to +220°F	2.39 lb
MIL-R-3065 SC 410 F2	40	1/64 thru 1/4	36, 48	1500	500	-60°F to +220°F	2.47 lb
MIL-R-3065 SC 515 F2	50	1/64 thru 1/4	36, 48	1700	400	-60°F to +220°F	2.61 lb
MIL-R-3065 SC 615 F2	60	1/64 thru 1/4	36, 48	1800	350	-60°F to +220°F	2.65 lb
MIL-R-3065 SC 715 F2	70	1/64 thru 1/4	36, 48	1800	270	-60°F to +220°F	2.61 lb
MIL-R-3065 SC 815 F2	80	1/64 thru 1/4	36, 48	1600	150	-60°F to +220°F	2.61 lb

*Typical Values

MIL-R-3065 SB (Nitrile)

Specifications	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-3065 SB 410 F2	40	1/64 thru 1/4	36, 48	1200	550	-60°F to +220°F	2.22 lb
MIL-R-3065 SB 515 F2	50	1/64 thru 1/4	36, 48	1600	450	-60°F to +220°F	2.22 lb
MIL-R-3065 SB 615 F2	60	1/64 thru 1/4	36, 48	1600	350	-60°F to +220°F	2.28 lb
MIL-R-3065 SB 715 F2	70	1/64 thru 1/4	36, 48	2000	280	-60°F to +220°F	2.35 lb
MIL-R-3065 SB 815 F1	80	1/64 thru 1/4	36, 48	1800	200	-60°F to +220°F	2.45 lb

*Typical Values

For more information please visit us at warco.com

Military Specification (cont'd)

MIL-R-6855 Class 1 (Fuel Resistant Nitrile)

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-6855 Class 1 Grade 40	40	1/64 thru 1/4	36, 48	1500	600	-50°F to +220°F	2.15 lb
MIL-R-6855 Class 1 Grade 50	50	1/64 thru 1/4	36, 48	1800	550	-50°F to +220°F	2.38 lb
MIL-R-6855 Class 1 Grade 60	60	1/64 thru 1/4	36, 48	2100	500	-50°F to +220°F	2.42 lb
MIL-R-6855 Class 1 Grade 70	70	1/64 thru 1/4	36, 48	2000	300	-50°F to +220°F	2.5 lb
MIL-R-6855 Class 1 Grade 80	80	1/64 thru 1/4	36, 48	1800	200	-50°F to +220°F	2.46 lb

*Typical Values

MIL-R-6855 Class 2 (Oil Resistant Neoprene)

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-6855 Class 2 Grade 30	30	1/64 thru 1/4	36, 48	1300	550	-50°F to +220°F	2.36 lb
MIL-R-6855 Class 2 Grade 40	40	1/64 thru 1/4	36, 48	1600	550	-50°F to +220°F	2.45 lb
MIL-R-6855 Class 2 Grade 50	50	1/64 thru 1/4	36, 48	1600	400	-50°F to +220°F	2.53 lb
MIL-R-6855 Class 2 Grade 60	60	1/64 thru 1/4	36, 48	1900	400	-50°F to +220°F	2.69 lb
MIL-R-6855 Class 2 Grade 70	70	1/64 thru 1/4	36, 48	1800	250	-50°F to +220°F	2.67 lb
MIL-R-6855 Class 2 Grade 80	80	1/64 thru 1/4	36, 48	1800	160	-50°F to +220°F	2.78 lb

*Typical Values

MIL-G-1149

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-G-1149 Type 1 Class 1 Grade 50 Neoprene	50	1/64 thru 1/4	36, 48	1300	400	-30°F to +200°F	2.67 lb
MIL-G-1149 Type 1 Class 2 Grade 50 SBR	50	1/16 thru 1/4	36	1100	400	-40°F to +180°F	2.14 lb
MIL-G-1149 Type 1 Class 5 Grade 50 Nitrile	50	1/64 thru 1/4	36, 48	1500	500	-40°F to +220°F	2.32 lb

*Typical Values

MIL-R-2765 (Nitrile)

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-2765	40	1/64 thru 1/4	36, 48	1300	500	-50°F to +220°F	2.24 lb

*Typical Values

MIL-R-21252 (EPDM)

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-21252	85	1/64 thru 1/4	36, 48	2000	200	-40°F to +220°F	2.3 lb

*Typical Values

MIL-R-83285 GR80 (EPDM)

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-83285 GR80	80	1/64 thru 1/4	36, 48	1800	150	-60°F to +300°F	2.32 lb

*Typical Values

MIL-R-900 (EPDM)

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
MIL-R-900	45	1/64 thru 1/4	36, 48	1500	550	-40°F to +220°F	2.1 lb

*Typical Values

ASTM D 2000 Specification

M4CA (EPDM), also meets M4AA and M2AA requirements

Specifications	Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
ASTM D 2000 M4CA 410 A25 B35 C32 EA14 F19	40	1/64 thru 1/4	36, 48	1500	550	-55°F to +300°F	2.1 lb
ASTM D 2000 M4CA 510 A25 B35 C32 EA14 F19	50	1/64 thru 1/4	36, 48	1600	400	-55°F to +300°F	2.08 lb
ASTM D 2000 M4CA 610 A25 B35 C32 EA14 F19	60	1/64 thru 1/4	36, 48	1800	350	-55°F to +300°F	2.14 lb
ASTM D 2000 M4CA 710 A25 B35 C32 EA14 F19	70	1/64 thru 1/4	36, 48	1700	250	-55°F to +300°F	2.2 lb
ASTM D 2000 M4CA 810 A25 B35 C32 EA14 F19	80	1/64 thru 1/4	36, 48	1800	200	-55°F to +300°F	2.31 lb

*Typical Values

For more information please visit us at warco.com

ASTM D 2000 Specification (cont'd)

M2BC (Neoprene)

Specifications	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
ASTM D 2000 M2BC 410 A14 B14 C12 E034 F17	40	1/64 thru 1/4	36, 48	1600	550	-50°F to +200°F	2.45 lb
ASTM D 2000 M2BC 510 A14 B14 C12 E034 F17	50	1/64 thru 1/4	36, 48	1600	400	-50°F to +200°F	2.53 lb
ASTM D 2000 M2BC 610 A14 B14 C12 E034 F17	60	1/64 thru 1/4	36, 48	1900	400	-50°F to +200°F	2.69 lb
ASTM D 2000 M2BC 710 A14 B14 C12 E034 F17	70	1/64 thru 1/4	36, 48	1800	250	-50°F to +200°F	2.67 lb

*Typical Values

M5BG (Nitrile)

Specifications	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
ASTM D 2000 M5BG 407 A14 B14 E014 E034 F17	40	1/64 thru 1/4	36, 48	1100	500	-40°F to +220°F	2.14 lb
ASTM D 2000 M5BG 507 A14 B14 E014 E034 F17	50	1/64 thru 1/4	36, 48	1200	400	-40°F to +220°F	2.22 lb
ASTM D 2000 M5BG 610 A14 B14 E014 E034 F17	60	1/64 thru 1/4	36, 48	1700	400	-40°F to +220°F	2.41 lb
ASTM D 2000 M5BG 710 A14 B14 E014 E034 F17	70	1/64 thru 1/4	36, 48	1700	300	-40°F to +220°F	2.41 lb

*Typical Values

Aerospace Material Specification

Specifications	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")
AMS 3205 Low Temperature (Neoprene)	50	1/64 thru 1/4	36, 48	1600	400	-50°F to +220°F	2.53 lb
AMS 3208 Weather Resistant (Neoprene)	50	1/64 thru 1/4	36, 48	1800	400	-30°F to +220°F	2.51 lb
AMS 3215 Fuel Resistant (Nitrile)	70	1/64 thru 1/4	36, 48	1700	350	-30°F to +220°F	2.45 lb

*Typical Values

Please refer to Price Pages for Stock Items

ENGINEERED

Neoprene Sheet

Nitrile (Buna-N) Sheet

Natural Rubber Sheet

Silicone Sheet

RotoCell®

Cloth Inserted (CI) Sheet

Diaphragm Sheet

Waterstops

Rubber Dock Bumpers

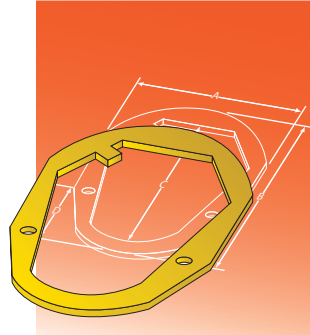
Utility Straps

ENGINEERED PRODUCTS

STYLE 13

FDA Neoprene

This off-white Neoprene material contains FDA approved ingredients per 21 CFR 177.2600, an FDA regulation dealing with rubber articles that are intended to be used in contact with food. Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36, 48	800	550	-30°F to +220°F	2.65 lb	FDA Approved Ingredients per 21 CFR 177.2600
55	1/32 thru 1/4	36, 48	1200	500	-30°F to +220°F	2.98 lb	FDA Approved Ingredients per 21 CFR 177.2600
60	1/32 thru 1/4	36, 48	1400	450	-30°F to +220°F	2.98 lb	FDA Approved Ingredients per 21 CFR 177.2600

*Typical Values

STYLE 17

Antimicrobial Neoprene

This specially formulated sheet product line prevents the growth of bacteria, fungi, and yeasts while avoiding obstacles that organic biocides have posed in the past. This product can alleviate cleaning challenges in food-processing, medical, industrial, and other applications prone to microbial growth.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36	1600	550	-50°F to +220°F	2.44 lb	MIL R 6855 CL 2 GR 40, MIL STD 810E Method 508.4
50	1/32 thru 1/4	36	1600	400	-50°F to +220°F	2.52 lb	MIL R 6855 CL 2 GR40, MIL STD 810E Method 508.4
60	1/32 thru 1/4	36	1800	350	-30°F to +220°F	2.58 lb	ASTM D 2000 2BC 615 A14 B14 C12 Z, (Z = MIL STD 810E Method 508.4)

*Typical Values

STYLE 51

Cloth Inserted (CI) Neoprene

A blended Neoprene compound with one or more polyester fabric plies, for service where dimensional stability is required.

Suitable for use where moderate oil resistance is required and where hot and cold water and gases are being conveyed. Fabric content per thickness is one ply for 1/32" and 1/16", two plies for 1/8", three plies for 3/16", and four plies for 1/4".

Temperature Range: -20°F to +180°F Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Fabric Weight	Fabric Type	Estimated Weight Per Linear Foot (1/8" x 48")	Oil Resistance	Specifications
70	1/32 thru 1/4	48	600	250	4.0 oz	Cotton or Polyester	4.0 lb	Good	ASTM D 2000 1BC 706

Durometer and tensile strength of the above material is calculated with the respective material inserted into the sheet.

This construction includes one ply for each 1/16" thickness: 1/16 - 3/32 = 1 ply 1/8" = 2 plies 3/16" = 3 plies 1/4" = 4 plies

STYLE 14

Special PSA Ready Neoprene

Specifically designed for use with pressure sensitive adhesives (PSA). We supply the material talc-free: re-rolled in a polyethylene liner.

Finish: Matte on one side

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36, 48	900	400	-30°F to +200°F	2.3 lb	ASTM D 2000 SAE J200 1BC 408 MIL R 3065 SC 408
50	1/16 thru 1/4	36	1100	350	-30°F to +200°F	2.6 lb	ASTM D 2000 SAE J200 1BC 510 MIL R 3065 SC 510
60	1/16 thru 1/4	36, 72	1200	350	-30°F to +200°F	2.7 lb	ASTM D 2000 SAE J200 1BC 610 MIL R 3065 SC 610
70	1/16 thru 1/4	36	1200	250	-30°F to +200°F	2.7 lb	ASTM D 2000 SAE J200 1BC 710 MIL R 3065 SC 710
80	1/16 thru 1/4	36	1200	150	-30°F to +200°F	2.8 lb	ASTM D 2000 SAE J200 1BC 810 MIL R 3065 SC 810

*Typical Values

STYLE 16

Low Smoke, Low Flame, Low Toxicity Neoprene

Another example of the extensive

capabilities of our laboratory. This material is designed and formulated to meet the mass transit industry's most demanding requirements and specifications for smoke generation (ASTM E 662), flame propagation (ASTM C 542), and toxic fume production (SMP 800-C). Rail transit, truck, bus or automotive, **WARCO BILTRITE** has the material to meet your requirements.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
65	1/32 thru 1/4	36, 48	1500	500	-30°F to +220°F	2.98 lb	ASTM E 662, ASTM C 542 (ASTM C 1166 Procedure), Bombardier SMP 800-C**, Boeing BSS 7239, UL 94VO
75	1/32 thru 1/4	36, 48	1300	550	-30°F to +220°F	3.12 lb	ASTM E 662, ASTM C 542 (ASTM C 1166 Procedure), Bombardier SMP 800-C**, Boeing BSS 7239, UL 94VO

*Typical Values **Certified by Bodycote Materials Testing Canada, Inc.

For more information please visit us at warco.com

STYLE 33

Transformer Oil Material A Nitrile material designed specifically for the transformer oil market; helping to dissipate the likelihood of high electrostatic charging tendencies. These highly engineered materials, in addition to meeting their respective ASTM D 2000 line call-outs, meet industry specification GE A12C11E7.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
60	1/32 thru 1/2	36, 48	2100	500	-30°F to +250°F	2.36 lb	ASTM D 2000 5BG 620 A14 B14 E034; General Electric EA12C11E7
70	1/32 thru 1/2	36, 48	2200	350	-20°F to +250°F	2.42 lb	ASTM D 2000 5BG 720 A14 B14 E034; General Electric EA12C11E7

*Typical Values

STYLE 34

Bio-Diesel Nitrile Sheet Specially designed and developed for use in environments where alternative fuels are present. Immersion test results indicate that these materials are compatible with alternative fuels and are suitable for Bio-Diesel B20 (20% Bio-Diesel and 80% Petroleum Diesel) and Bio-Diesel B100 (100% Bio-Diesel).

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Features
60	1/32 thru 1/2	36, 48	1500	300	-30°F to +220°F	2.39 lb	Compatible with Bio-Diesel B20 & B100
70	1/32 thru 1/2	36, 48	1800	250	-30°F to +220°F	2.4 lb	Compatible with Bio-Diesel B20 & B100

*Typical Values

STYLE 22

Protein Free (Synthetic Polyisoprene) This offering represents a synthetic polyisoprene which does not contain protein, which can cause allergic reactions in some cases. All materials are made with FDA approved ingredients per 21CFR 177.2600. **Light Tan in color.**

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/64 thru 1/4	36, 48	2600	600	-40°F to +160°F	1.91 lb	ASTM D 2000 2AA 425 A13 F17

This material does not contain protein, which may cause allergic reactions. All materials are made with FDA approved ingredients per 21CFR 177.2600

*Typical Values

Please refer to Price Pages for Stock Items

STYLE 24

Tuff-Stuff Plus® This Natural Rubber material is supplied with a .062" layer of 60 durometer black Neoprene vulcanized to one side. This compound has been designed to bond to most substrates. Apply your adhesive to the side with the black neoprene layer. The black layer is also useful as a wear indicator. We recommend that you thoroughly test the material with your adhesive before using this material in any application. All adhesives vary to some degree and each adhesive will react differently with any rubber compound. Tear Resistance (Die C) = 200 PPI.

Red in color.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/8 thru 1/2	36, 48	3200	650	-40°F to +160°F	2.03 lb	ASTM D 2000 4AA 430 A13 B13 F17 G21

*Typical Values

STYLE 67

FDA Silicone This Silicone material is designed for applications where food or consumables are present. FDA Silicone is low volatile, peroxide-free and does not discolor over time. The ingredients used to make this product are listed in CFR 177.2600, an FDA regulation dealing with rubber articles that are intended to be used in contact with food. This material is ozone and UV resistant. **Red in color. Also available in White.**

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36, 48	650	350	-65°F to +400°F	2.18 lb	FDA approved ingredients per 21CFR 177.2600.
50	1/32 thru 1/4	36, 48	650	250	-65°F to +400°F	2.54 lb	
60	1/32 thru 1/4	36, 48	650	200	-65°F to +400°F	2.67 lb	
70	1/32 thru 1/4	36, 48	650	150	-65°F to +400°F	2.75 lb	
80	1/32 thru 1/4	36, 48	700	150	-65°F to +400°F	2.77 lb	

STYLE 55

RotoCell® This expanded rubber product is designed with cushioning and lower weight in mind, while maintaining as much of the rugged durability of compounded rubber as possible.

Finish: Smooth. KleenRite® also available.

Density	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/4" x 36")
0.637	30	1/4 thru 1/2	36, 48	200	200	-20°F to +140°F	2.5 lb
0.637	40	1/4 thru 1/2	36, 48	200	200	-20°F to +140°F	2.6 lb
0.637	50	1/4 thru 1/2	36, 48	200	200	-20°F to +140°F	2.9 lb

For more information please visit us at warco.com

STYLE 52

HH-P-151F Cloth Inserted (CI) Sheet

Designed for ventilating systems and for flange joints for water or brine systems to withstand 250 pounds of pressure. A typical application is a flange gasket in which the compression loads are so high that non-reinforced rubber would squeeze or extrude out between the flanges.

Fabric Weight: 10.8 oz per sq.yd. Finish: Smooth

Class	Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Polymer	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Oil Resistance
1	50	1/16 thru 1/4	36, 48	1800	450	SBR	-40°F to +200°F	2.7 lb	N/A
2	60	1/16 thru 1/4	36, 48	1650	350	Neoprene	-40°F to +220°F	3.2 lb	Medium
3	50	1/16 thru 1/4	36, 48	1800	450	SBR	-40°F to +200°F	2.7 lb	N/A
4	50	1/16 thru 1/4	36, 48	1600	600	NBR	-40°F to +250°F	2.9 lb	High

*Typical Values Each sheet has a ply of 10.8 oz./sq. yd. per each 1/16" gauge.

GAUGES: This construction includes one ply for each 1/16" thickness (1/16" = 1 ply, 1/8" = 2 ply, 3/16" = 3 ply, 1/4" = 4 ply)

STYLE 50

Oil Resistant Neoprene Diaphragm Sheet

A fabric reinforced, oil resistant Neoprene blended sheet used

to transmit motion between fluids. Premium components and superior properties for long service life. Makes an excellent weather stripping material. Should be carefully assessed for suitability to assure low permeability to the fluids or gases it will separate.

Temperature Range: -20°F to +180°F Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Fabric Weight	Fabric Type	Estimated Weight Per Linear Foot (1/8" x 48")	Oil Resistance	Specifications
70	1/16 thru 1/4	48	900	300	8.5 oz	Polyester	4.0 lb	Good	ASTM D 2000 1BC 709



Please refer to Price Pages for Stock Items

Waterstops Rubber Waterstop has been used extensively on projects throughout the United States and the world. Beginning with projects designed by the U.S. Army Corps. of Engineers and the U.S. Bureau of Reclamation, Rubber Waterstop usage has expanded to all types of concrete structures for the purpose of keeping liquids in or out. SBR Rubber is used primarily for water containment, while Neoprene Rubber is used generally for projects involving sewage, water treatment and chemical environments. Waterstops are also available in other polymers such as EPDM, Nitrile, Silicone and Natural Rubber.

Physical Properties Chart of Various Polymers





WARCO BILTRITE Waterstops are normally provided to meet the U.S. Army Corps. of Engineers and the U.S. Bureau of Reclamation's specifications. Statistical sampling and laboratory batch control assures the highest standards of quality. Our Waterstop can be provided to meet other national and international specifications in accordance with project requirements.

	Test Method	SBR (Styrene Butadiene)	Natural Rubber	High Tensile Neoprene*
Tensile Strength, psi, min	ASTM D 412	3000	3500	2500
Tensile Strength @ 300% Modulus, psi, min	ASTM D 412	1150	1450	1150
Ultimate Elongation, %, min	ASTM D 412	450	500	450
Durometer, Shore A ± 5	ASTM D 2240	65	65	65
Water Absorption, 2 Days at 70°C Weight Change, %, max	ASTM D 471	5	5	5
Compression Set, 22h @ 70°C % of original deflection, max	ASTM D 395 (Method B)	30	30	40
Accelerated Aging, 96h @ 70°C % of Tensile Strength retained, min	ASTM D 573	80	80	80
% of Elongation retained, min	ASTM D 573	80	80	80
Ozone Resistance, 7 Days at 50 pphm @ 38°C, under 20 % Elongation	ASTM D 1149	no cracks	no cracks	no cracks

*Provides Maximum Resistance to Ozone, Sewage, Oil, and Solvents



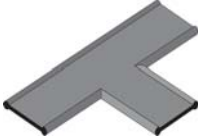


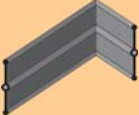
Waterstop Profile Chart

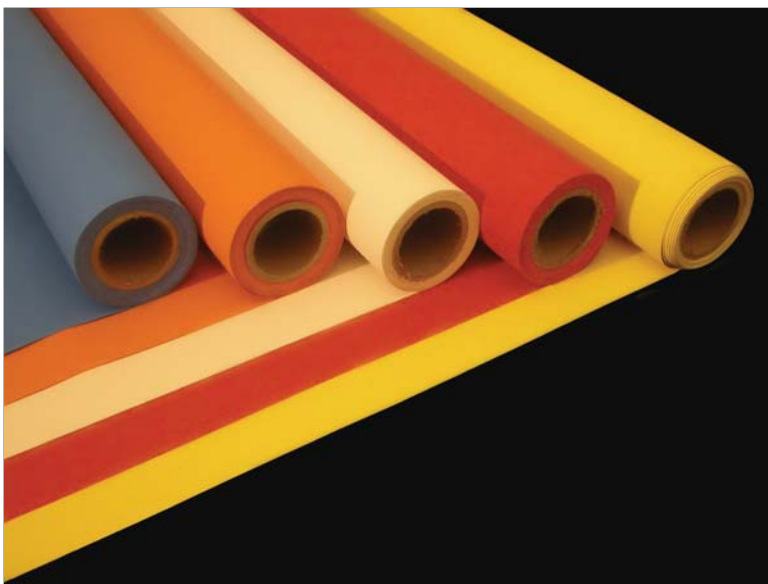
The profiles below are normally provided in SBR and Neoprene compounds as required. Waterstop is usually provided in 50 ft. lengths, but can be manufactured in longer and shorter lengths to minimize field splicing. Special profiles and compounds can be provided to meet specific project requirements. WARCO BILTRITE Rubber Waterstop is also available in non-spec commercial grade.

Profiles	Normal Size (Width x Thickness x Bulb O.D.)	Polymer	Weight Per Cubic Foot
	Dumbbell Type 6" x 3/8" x 3/4" end bulbs 152.4mm x 9.5mm x 19mm end bulbs	Neoprene	160
		SBR	130
	Dumbbell Type 9" x 3/8" x 3/4" end bulbs 228.6mm x 9.5mm x 19mm end bulbs	Neoprene	230
		SBR	190
	Center Bulb Type 6" x 1/4" x 5/8" end bulbs (1 1/8" center bulb) 152.4mm x 6.3mm x 15.9mm end bulbs (28.6mm center bulb)	Neoprene	125
		SBR	105
	Center Bulb Type 9" x 3/8" x 1" end bulbs (1 1/2" center bulb) 228.6mm x 9.5mm x 25.4mm end bulbs (38mm center bulb)	Neoprene	300
		SBR	250

For more information please visit us at warco.com

Waterstop Molded Intersections

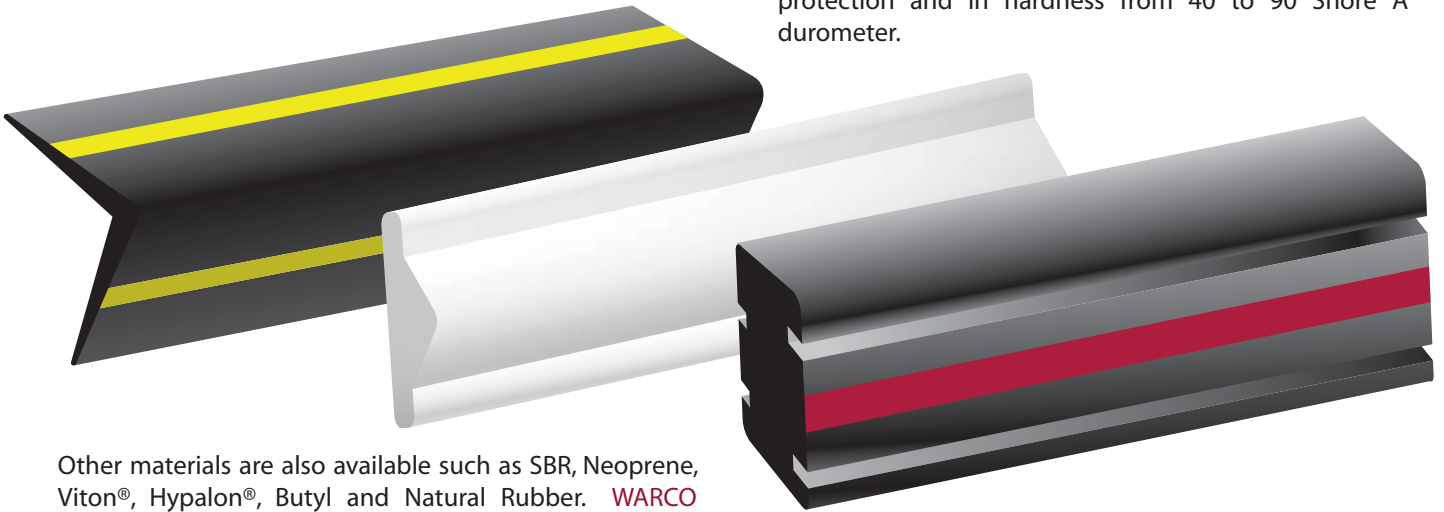
TYPE	●————●		●————○————●	
	6"	9"	6"	9"
Union 	C 6" DBU	C 9" DBU	C 6" DBCBU	C 9" DBCBU
Flat Cross 	C 6" DBFC	C 9" DBFC	C 6" DBCBFC	C 9" DBCBFC
Flat Tee 	C 6" DBFT	C 9" DBFT	C 6" DBCBFT	C 9" DBCBFT
Flat Ell 	C 6" DBFE	C 9" DBFE	C 6" DBCBFE	C 9" DBCBFE
Vertical Tee 	C 6" DBVT	C 9" DBVT	C 6" DBCBVT	C 9" DBCBVT
Vertical Ell 	C 6" DBVE	C 9" DBVE	C 6" DBCBVE	C 9" DBCBVE



Please refer to Price Pages for Stock Items

Rubber Dock Bumpers


Eliminate costly and unsightly damage to equipment, vehicles and structures. **WARCO BILTRITE Rubber Dock Bumpers** are appropriate for indoor and outdoor protection and contain the correct amount of resilience to absorb pressure and impact shock. Optimally suited for marinas, loading docks, parking garages, vessel protection and on vehicles, such as tow-trucks, trailers and heavy duty construction equipment. Made of weather resistant EPDM extruded rubber for medium and heavy duty protection and in hardness from 40 to 90 Shore A durometer.



Other materials are also available such as SBR, Neoprene, Viton®, Hypalon®, Butyl and Natural Rubber. **WARCO BILTRITE Rubber Dock Bumpers** are available in standard lengths of 15' that may be cut to size. Easy installation and minimal maintenance. Bumpers come in standard Black, but are available in White and an array of Custom colors. High visibility colored stripes may be added to ensure the bumper will be seen in its application. Non-marking bumpers are available. **WARCO BILTRITE** can provide material and shapes to meet special requirements and specifications.

Utility Straps

Single piece molded construction ensures exceptional strength and stretch resiliency. The special EPDM compound used in the construction of **WARCO BILTRITE Utility Straps** is suited for high oxidation and weather resistance without cracking. An assortment of lengths from 6 inches to 31 inches are available.

	Details	Length	Pieces Per Box	Estimated Weight Per 100 Pieces (With S-Hooks)
	S-Hooks are included with all WARCO BILTRITE utility straps. Straps come unassembled.	6"	50	17
		10"	50	21
		15"	50	25
		21"	50	29
		31"	50	37

For more information please visit us at warco.com

PERFORMANCE

Neoprene Sheet

EPDM Sheet

Nitrile (Buna-N) Sheet

SBR Sheet

Natural Rubber Sheet

Viton® Sheet

Fluoroelastomer Sheet

Silicone Sheet

Cloth Inserted (CI) Sheet

Hypalon® Sheet

Butyl Sheet

Thermoplastic Elastomer (TPE) Sheet

Mats and Matting

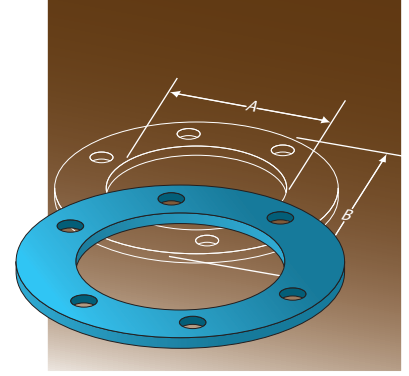
Molded Slabs

Chute Lining Skirtboard

AASHTO Bearing Pads

NEOPRENE SHEET

Neoprene is noted for a unique combination of properties, which has led to its use in thousands of applications in diverse environments. Neoprene is a polymer that provides moderate oil and gasoline resistance, very good resistance to ozone and sunlight, excellent adhesion to fabric and metals, good resistance to abrasion and flex cracking and very good resistance to alkalis and acids.



STYLE 19

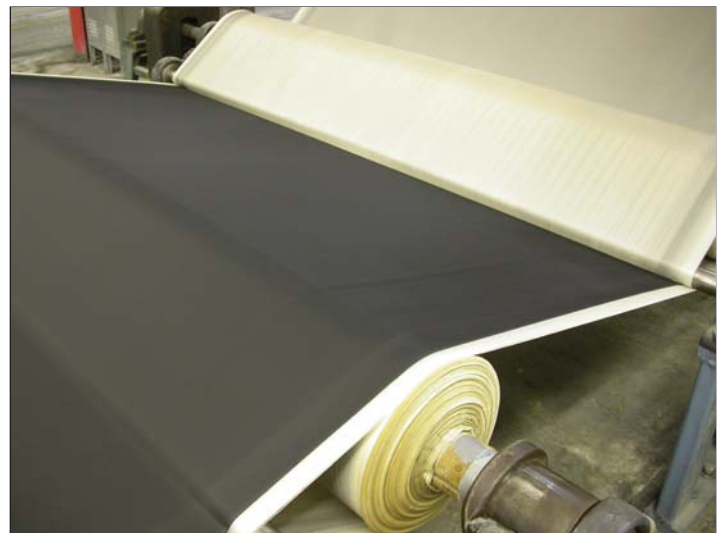
High Grade Neoprene

This product is designed to give maximum performance and service, resisting degradation from ozone and performing well in contact with oils and many chemicals, exhibiting integrity over a wide temperature range as well as an outstanding resistance to damage caused by flexing and twisting.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
30	1/32 thru 1/4	36, 48	900	450	-30°F to +225°F	2.43 lb	ASTM D 2000 2BC 308 A14 C12 EO34
40	1/64 thru 1/4	36, 48	1200	450	-30°F to +225°F	2.46 lb	ASTM D 2000 2BC 410 A14 C12 EO34
50	1/64 thru 1/4	36, 48	1600	400	-30°F to +225°F	2.54 lb	ASTM D 2000 2BC 515 A14 C12 EO34
60	1/64 thru 1/4	36, 48	1600	350	-30°F to +225°F	2.65 lb	ASTM D 2000 2BC 615 A14 C12 EO34
70	1/64 thru 1/4	36, 48	1600	250	-30°F to +225°F	2.77 lb	ASTM D 2000 2BC 715 A14 C12 EO34
80	1/64 thru 1/4	36, 48	1600	150	-30°F to +225°F	2.79 lb	ASTM D 2000 2BC 815 A14 C12 EO34
90	1/32 thru 1/4	36, 48	1600	150	-30°F to +225°F	2.81 lb	ASTM D 2000 2BC 915 A14 C12 EO34

*Typical Values



For more information please visit us at warco.com

STYLE 15

Mid-Grade Neoprene

A premium grade blended sheet for applications requiring a higher percentage of Neoprene and wider temperature range than standard commercial grade. This Neoprene formula has great resistance to weathering and moderate resistance to oil and gasoline.
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
30	1/32 thru 1/4	36, 48	850	450	-30°F to +200°F	2.2 lb	ASTM D 2000 1BC 308
40	1/32 thru 1/4	36, 48	1100	400	-30°F to +200°F	2.45 lb	ASTM D 2000 1BC 410
50	1/64 thru 1/2	36, 48	1200	350	-30°F to +200°F	2.46 lb	ASTM D 2000 1BC 510
60	1/64 thru 1/2	36, 48	1200	350	-30°F to +200°F	2.48 lb	ASTM D 2000 1BC 610
70	1/64 thru 1/4	36, 48	1200	250	-30°F to +200°F	2.52 lb	ASTM D 2000 1BC 710
80	1/32 thru 1/4	36, 48	1200	150	-30°F to +200°F	2.75 lb	ASTM D 2000 1BC 810

*Typical Values

STYLE 10

Commercial Grade Neoprene

A smooth finish general purpose compound with low temperature flexibility and oil resistance. Resists rotting, checking, and cracking due to weather exposure. Designed to meet ASTM specifications for 1 BC Material.
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile min. psi	Ultimate Elongation min. %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1	36, 48	800	350	-20°F to +170°F	2.5 lb	ASTM D 2000 SAE J200 1BC 408 MIL R 3065 SC 408Z*
50	1/32 thru 2	36, 48	800	300	-20°F to +170°F	2.6 lb	ASTM D 2000 SAE J200 1BC 508 MIL R 3065 SC 508
60	1/32 thru 2 1/16, 1/8, 1/4	36, 48 & 72	900	300	-20°F to +170°F	2.7 lb	ASTM D 2000 SAE J200 1BC 609 MIL R 3065 SC 609
70	1/32 thru 2	36, 48	1000	200	-20°F to +170°F	2.7 lb	ASTM D 2000 SAE J200 1BC 710 MIL R 3065 SC 710
80	1/32 thru 2	36	1000	100	-20°F to +170°F	2.8 lb	ASTM D 2000 SAE J200 1BC 810 MIL R 3065 SC 810

*Z = Elongation: 350% min

Please refer to Price Pages for Stock Items

STYLE 12

Matte Finish Neoprene

A commercial blended neoprene sheet with a matte finish on one side. It is free of talc and release solutions which make it excellent for applications that involve the use of pressure sensitive adhesives (PSA). **Black in color.**

Finish: Matte Finish on one side

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
50	1/16 thru 1/4	36	800	300	-20°F to +170°F	2.6 lb	ASTM D 2000 SAE J200 1BC 508 MIL R 3065 SC 508
60	1/16 thru 1/4	36, 72	900	300	-20°F to +170°F	2.7 lb	ASTM D 2000 SAE J200 1BC 609 MIL R 3065 SC 609
70	1/16 thru 1/4	36	1000	200	-20°F to +170°F	2.7 lb	ASTM D 2000 SAE J200 1BC 710 MIL R 3065 SC 710
80	1/16 thru 1/4	36	1000	100	-20°F to +170°F	2.8 lb	ASTM D 2000 SAE J200 1BC 810 MIL R 3065 SC 810

*Supplied Talc-Free

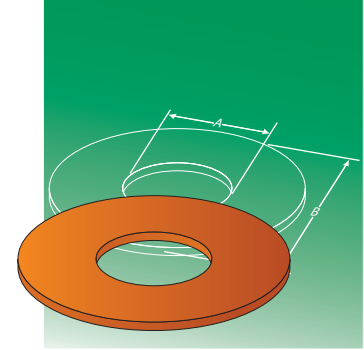
WARCO® BILTRITE®

WARCO BILTRITE serves a diverse clientele from the oil industry to gasket cutters, from automakers to aerospace, from food service to footwear, from medical to military. Every customer among the thousands we have served has shared a common need for quality, responsiveness and flexibility.



For more information please visit us at warco.com

EPDM SHEET EPDM provides superior properties for outdoor and high temperature applications. EPDM has excellent resistance to heat, ozone and sunlight and good resistance to alkalis, acids and oxygenated solvents. Very good temperature flexibility, superior resistance to water and steam. It is highly extendible and is sulfur and peroxide curable.



STYLE 45

High Grade EPDM An EPDM best suited for applications where a high performance rating is required. Finish: Smooth

Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/64 thru 1/4	36, 48	1100	400	-50°F to +225°F	2.03 lb	ASTM D 2000 5BA 410 C12 F17
50	1/64 thru 1/4	36, 48	1200	350	-50°F to +225°F	2.2 lb	ASTM D 2000 5BA 510 C12 F17
60	1/64 thru 1/4	36, 48	1300	350	-50°F to +225°F	2.22 lb	ASTM D 2000 5BA 610 C12 F17
70	1/64 thru 1/4	36, 48	1300	250	-50°F to +225°F	2.28 lb	ASTM D 2000 5BA 710 C12 F17
80	1/64 thru 1/4	36, 48	1550	200	-50°F to +225°F	2.28 lb	ASTM D 2000 5BA 815 C12 F17

*Typical Values

STYLE 40

Commercial Grade EPDM Our most economical EPDM sheet offered. Intended to be used in less critical applications where temperatures are of an intermittent nature.

Finish: Smooth

Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/16 thru 1	36, 48	800	300	-40°F to +212°F	2.4 lb	ASTM D 2000 SAE J200 3BA 408 C12 MIL R-3065 RS 408 C12
50	1/16 thru 1	36, 48	800	300	-40°F to +212°F	2.5 lb	ASTM D 2000 SAE J200 3BA 508 C12 MIL R-3065 RS 508 C12
60	1/16 thru 1	36, 48	800	250	-40°F to +212°F	2.6 lb	ASTM D 2000 SAE J200 3BA 608 C12 MIL R-3065 RS 608 C12
70	1/16 thru 1	36, 48	800	150	-40°F to +212°F	2.7 lb	ASTM D 2000 SAE J200 3BA 708 C12 MIL R-3065 RS 708 C12

Please refer to Price Pages for Stock Items

STYLE 42

Peroxide Cure EPDM

Peroxide cured EPDM provides exceptional heat and aging stability and better compression set performance at higher temperatures. Most peroxides do not bloom and have better color control and stability.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/64 thru 1/4	36, 48	1550	550	-55°F to +300°F	2.13 lb	ASTM D 2000 4CA 415 A25 B35 C32 EA14 F19
50	1/64 thru 1/4	36, 48	1600	400	-55°F to +300°F	2.1 lb	ASTM D 2000 4CA 515 A25 B35 C32 EA14 F19
60	1/64 thru 1/4	36, 48	1800	350	-55°F to +300°F	2.15 lb	ASTM D 2000 4CA 615 A25 B35 C32 EA14 F19
70	1/64 thru 1/4	36, 48	1700	250	-55°F to +300°F	2.2 lb	ASTM D 2000 4CA 715 A25 B35 C32 EA14 F19
80	1/64 thru 1/4	36, 48	1800	200	-55°F to +300°F	2.32 lb	ASTM D 2000 4CA 815 A25 B35 C32 EA14 F19

*Typical Values

WARCO® BILTRITE®



Certificate No. 0303064
Standard Issue 2000

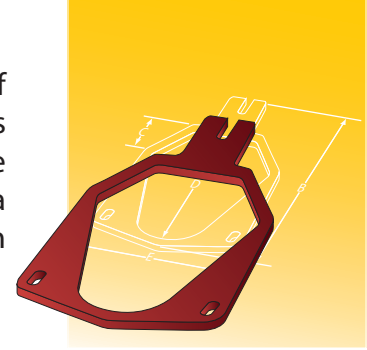
WARCO BILTRITE maintains a SATRA accredited lab, one of just over a hundred worldwide. To achieve this distinction, the equipment, environment, quality system, and staff must uphold a very high standard.



For more information please visit us at warco.com

NITRILE [BUNA-N] SHEET

Nitrile is the polymer of choice for applications requiring oil and solvent resistance. Nitrile has very good oil and gasoline resistance, superior resistance to petroleum-based hydraulic fluids, a wide range of service temperatures, good resistance to hydrocarbon solvents, and very good resistance to alkalis and acids.



STYLE 36

High Grade Nitrile

High Grade Nitrile is formulated to give maximum oil resistance. The higher cost is offset by longer service life in demanding applications. This is a warehouse stock item in 60 durometer. Other hardnesses are available on a made-to-order basis.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/64 thru 1/4	36, 48	1100	500	-30°F to +225°F	2.22 lb	ASTM D 2000 6BG 410 A14 B14
50	1/64 thru 1/4	36, 48	1400	400	-30°F to +225°F	2.32 lb	ASTM D 2000 6BG 512 A14 B14
60	1/64 thru 1/4	36, 48	1600	300	-30°F to +225°F	2.36 lb	ASTM D 2000 6BG 615 A14 B14
70	1/64 thru 1/4	36, 48	1700	250	-30°F to +225°F	2.48 lb	ASTM D 2000 6BG 715 A14 B14
80	1/64 thru 1/4	36, 48	1600	150	-30°F to +225°F	2.59 lb	ASTM D 2000 6BG 815 A14 B14
90	1/32 thru 1/4**	36, 48	1600	100	-30°F to +225°F	2.34 lb	ASTM D 2000 6BG 915 A14 B14

*Typical Values **1/4" thick 90 durometer material available in slabs only.

STYLE 38

Mid-Grade Nitrile

A quality grade blended sheet for applications requiring a higher percentage of Nitrile. This formulation provides greater oil and solvent resistance and has a wider temperature range than commercial Nitrile.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36, 48	900	450	-30°F to +200°F	2.15 lb	ASTM D 2000 1BG 408
50	1/32 thru 1/4	36, 48	1100	400	-30°F to +200°F	2.32 lb	ASTM D 2000 1BG 510
60	1/32 thru 1/4	36, 48	1200	300	-30°F to +200°F	2.46 lb	ASTM D 2000 1BG 610
70	1/32 thru 1/4	36, 48	1200	250	-30°F to +200°F	2.47 lb	ASTM D 2000 1BG 710
80	1/32 thru 1/4	36, 48	1200	150	-30°F to +200°F	2.52 lb	ASTM D 2000 1BG 810

*Typical Values

Please refer to Price Pages for Stock Items

STYLE 35

Commercial Grade Nitrile

A smooth finish blended Nitrile sheet, which is offered in a range of five durometers: 40 thru 80 durometer, in order to perform in a wide variety of applications. Designed to meet ASTM specifications for 1BF material.

Finish: Smooth

Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/16 thru 1	36, 48	800	350	-30°F to +200°F	2.5 lb	ASTM D 2000 SAE J200, 1BF 408Z*
50	1/32 thru 1	36, 48	800	300	-30°F to +200°F	2.6 lb	ASTM D 2000 SAE J200, 1BF 508Z*
60	1/32 thru 1	36, 48	900	200	-30°F to +200°F	2.6 lb	ASTM D 2000 SAE J200, 1BF 609
70	1/32 thru 1	36, 48	1000	200	-30°F to +200°F	2.7 lb	ASTM D 2000 SAE J200, 1BF 710
80	1/32 thru 1	36	1000	100	-30°F to +200°F	2.9 lb	ASTM D 2000 SAE J200, 1BF 810

*Z = Meets basic requirements for BF materials. Physical properties are as listed.

STYLE 39

WARCO White® Premium FDA Nitrile

As its name implies, this material is specially formulated for its whiteness

and is used extensively in food and pharmaceutical environments. It is formulated with FDA-approved ingredients. It is non-toxic, non-marking and non-allergenic. It exhibits good abrasion resistance and handles oily and greasy food products well. All materials are made with FDA approved ingredients per 21CFR 177.2600. **White in color.**

Finish: Smooth

Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
45	1/32 thru 1/2	36, 48	750	550	-30°F to +225°F	2.71 lb	ASTM D 2000 1BG 505Z (Z = 45 \pm 5 Durometer)
55	1/32 thru 1/2	36, 48	1200	500	-30°F to +225°F	2.75 lb	ASTM D 2000 1BG 610Z (Z = 55 \pm 5 Durometer)
65	1/32 thru 1/2	36, 48	1400	450	-30°F to +225°F	2.95 lb	ASTM D 2000 1BG 712Z (Z = 65 \pm 5 Durometer)
80	1/32 thru 1/4	36, 48	900	300	-30°F to +225°F	3.31 lb	A ASTM D 2000 1BG 808

WARCO WHITE® is a registered trademark of West American Rubber Company, LLC. All rights reserved.
*Typical Values

For more information please visit us at warco.com

STYLE 37

Commercial FDA Nitrile

A sheet specially formulated for its whiteness, used in food, pharmaceutical, and cosmetic processing. Made from FDA-approved ingredients per 21CFR 177.2600, it is non-toxic, non-marking, and non-allergenic. It has good oil and abrasion resistance and handles oily and greasy food products well. This product conforms with 3-A Sanitary 18-03 requirements for multiple use rubber Class III and Class IV. **White in color.**

Finish: Smooth

Durometer Hardness Shore A \pm 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
60	1/16 thru 1/4	36 & 48	1000	500	-25°F to +180°F	2.8 lb	ASTM D 2000 1BG 610

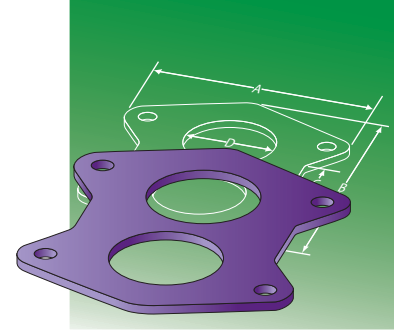
WARCO® BILTRITE®

Starting with quality raw materials, we develop and formulate compounds in our laboratory and manufacture finished products under very strict guidelines. We use the latest manufacturing techniques to produce high quality rubber products.



Please refer to Price Pages for Stock Items

SBR SHEET SBR is a copolymer of styrene and butadiene and has properties similar to Natural Rubber. It has good abrasion resistance, excellent impact strength, very good resilience and a high tensile strength. The temperature range of SBR is -40°F to 180°F. SBR can be compounded for use as lining rubber, conveyor belt covers and other extremely demanding applications.



STYLE 21

High Grade SBR A premium grade SBR sheet with a high tensile strength. Well suited for the heating and plumbing trades. Has good aging, abrasion and tear resistant properties. Refer to physical properties and ASTM data in assessing suitability for intended applications. **Black in color.**
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
75	1/16 thru 1/4	36, 48	900	160	-40°F to +180°F	2.56 lb	ASTM D 2000 1AA 709Z (Z = 75 ± 5 Durometer)

*Typical Values

STYLE 22

Mid-Grade SBR A mid-grade SBR with a higher tensile and better aging capacity than the economical Red Rubber. **Red in color.**

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
75	1/16 thru 1/4	36, 48, 72	700	250	-20°F to +170°F	3.2 lb	ASTM D 1330 Grade 1

STYLE 20

Red Rubber An economical red sheet for use in low pressure applications with no oil resistant requirements. **Red in color. Also available in Black on a special order basis.**

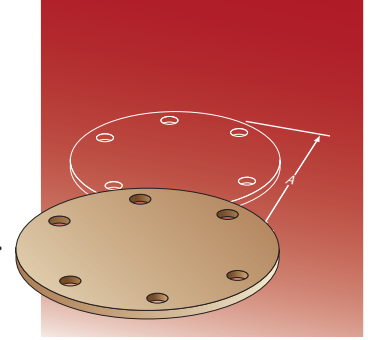
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
75	1/32 thru 1/4	36, 48, 72	400	150	-40°F to +170°F	3.5 lb	ASTM D 1330 Grade 2 ASTM D 2000 1AA 704Z (Z = 75 ± 5 Durometer)

For more information please visit us at warco.com

NATURAL RUBBER SHEET

Natural rubber is a good gasket material due to excellent physical properties. Natural rubber has superior resilience, tensile, elongation and abrasion resistance, good low temperature flexibility and compression set and excellent adhesion to fabric and metals.



STYLE 28

Pure Gum Floating

Light Tan Pure Gum Floating stock has superior resilience, tensile, elongation and abrasion resistance properties. Light Tan Natural Rubber is produced entirely with FDA approved ingredients per 21CFR 177.2600. It has good tear strength and is resistant to water, most salts, mild acids, and many other chemicals. Not suited for environments involving ozone, strong acids, animal fats, oils, greases, and most hydrocarbons. Non-marking and non-toxic. **Light Tan in color. Also available in Black.**
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/16 thru 1/2	36, 48	3200	650	-40°F to +160°F	1.91 lb	ASTM D 2000 2AA 430 A13 F17

All materials are made with FDA approved ingredients per 21CFR 177.2600
*Typical Values

STYLE 29

Natural Rubber

In addition to our Light Tan Natural Rubber, our Black Natural Rubber offering exhibits extremely good resiliency and abrasion resistance. It has good tear strength and is resistant to water, most salts and mild acids. **Black in color.**
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/64 thru 1/4	36, 48	3200	650	-40°F to +160°F	1.91 lb	ASTM D 2000 2AA 430 A13 F17
50	1/64 thru 1/4	36, 48	2700	550	-40°F to +160°F	2.07 lb	ASTM D 2000 2AA 525 A13 F17
60	1/64 thru 1/4	36, 48	2700	500	-40°F to +160°F	2.28 lb	ASTM D 2000 2AA 625 A13 F17

*Typical Values

STYLE 23

Tuff-Stuff®

Tuff-Stuff® Natural Rubber is an outstanding abrasion resistant material. Tuff-Stuff® delivers an optimum combination of tear, abrasion, noise, and impact resistance resulting in reduced maintenance costs and longer service life from capital equipment. Tuff-Stuff® and Tuff-Stuff Plus® have each been specifically formulated and field proven to deliver the ultimate in durability and long life for high production mineral and aggregate facilities.

Tear Resistance (Die C) = 200 PPI. **Red in color.**
Finish: Smooth

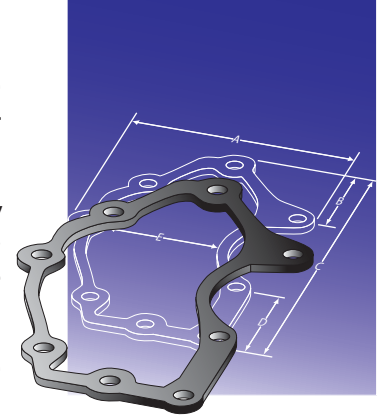
Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/8 thru 2	36, 48	3200	650	-40°F to +160°F	1.93 lb	ASTM D 2000 4AA 430 F17 G21

*Typical Values

Please refer to Price Pages for Stock Items

VITON® SHEET Viton® was originally introduced 50 years ago to meet the needs of the aerospace industry for a high-performance elastomer. Since then, the use of Viton® has spread quickly to many other industries, including the automotive, fluid power, appliance and chemical industries and has developed a reputation for its outstanding performance in very hot and extremely corrosive environments.

Particularly valued for its excellent heat stability (200°C) and resistance to aggressive fuels and chemicals, Viton® is the most specified fluoroelastomer for fuel system seals, expansion joints and gaskets.



STYLE 96

Viton® A: 66% Fluorine - Premium Grade A broad range of resistance to oils, fuels, lubricants and most mineral acids. Very good resistance to many aliphatic hydrocarbon fluids that act as solvents for many other rubbers. Exceptionally good compression set resistance; even at temperatures that can degradate other non-fluorinated elastomers. Good resistance to atmospheric oxidation, sun, and weather. Excellent resistance to fungus and mold.

Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
60	1/32 - 1/4	36, 48	1300	250	-20°F to +450°F	3.79 lb	ASTM D 2000 1HK 610
70	1/32 - 1/4	36, 48	1300	250	-20°F to +450°F	3.58 lb	ASTM D 2000 1HK 710
80	1/32 - 1/4	36, 48	1400	160	-20°F to +450°F	3.61 lb	ASTM D 2000 1HK 810

*Typical Values

STYLE 97

Viton® B: 68% Fluorine - Premium Grade Viton® B has greater resistance and retains flexibility better after dry heat aging than Viton® A. It is recommended for applications requiring maximum retention of elastic properties combined with good mechanical properties. Viton® B offers superior resistance to both diluted and concentrated aggressive acids.

Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
60	1/32 - 1/4	36, 48	1300	250	-20°F to +450°F	3.72 lb	ASTM D 2000 1HK 610
70	1/32 - 1/4	36, 48	1300	200	-20°F to +450°F	3.75 lb	ASTM D 2000 1HK 710
75	1/32 - 1/4	36, 48	1500	200	-20°F to +450°F	3.81 lb	ASTM D 2000 1HK 810Z (Z = 75 ± 5 Durometer)

*Typical Values

For more information please visit us at warco.com

STYLE 95

Viton® A: 66% Fluorine - Military Specification Grade

Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
75	1/64 thru 1/4	36, 48	1700	150	-20°F to +500°F	3.63 lb	Mil-R-83248C, AMS 7276G, AMS 3216G

WARCO BILTRITE is approved under the Government's Q.P.L. 83248-3.
*Typical Values

STYLE 91

Viton® A: 66% Fluorine - Commercial Grade

This material exhibits a broad range of resistance to oils, fuels, lubricants and most mineral acids. It has very good resistance to many aliphatic hydrocarbon fluids that act as solvents for many other rubbers. Exceptionally good compression set attributes even at temperatures that can embrittle other non-fluorinated elastomers. It also exhibits good resistance to atmospheric oxidation, sun, and weather, and has excellent resistance to fungus and mold.

Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Color/Finish
70	1/32 thru 1/4	36, 48	800	200	-20°F to +400°F	3.7 lb	Black/Smooth

STYLE 92

Viton® B: 68% Fluorine - Commercial Grade

Viton® B has better resistance and retains flexibility better after dry heat aging than Viton® A. It is recommended for applications requiring maximum retention of elastic properties combined with good mechanical properties. Viton® B is specified by the FSA to resist sulfur dioxide in power generating factory systems and in addition offers superior resistance to both diluted and concentrated aggressive acids including sulfuric acid, nitric acid and hydrochloric acid.

Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Color/Finish
75	1/32 - 1/4	36, 48	1000	200	-20°F to +450°F	3.6 lb	Black/Smooth

STYLE 94

Viton® A: 66% Fluorine - FDA Grade

Perfect for food and lab applications where FDA compliance is required. Has good

chemical resistance, high temperature properties and is resistant to corrosives.

Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
75	1/64 thru 1/4	36, 48	1200	200	-20°F to +450°F	3.63 lb	FDA approved ingredients per 21 CFR 177.2600

DuPont Gasket Codes - DuPont Engineering Standards U2A and SU2A

DuPont Code	Viton Type	Compound Number	Durometer Hardness Shore \pm 5	Tensile psi	Ultimate Elongation Percent	Temperature Range
S21/G21	A	60-F-3096	60	1500	200	-20°F to +450°F
S22/G22	A	75-F-3097	75	1500	180	-20°F to +450°F
S23/G23	B	60-F-4126	60	1500	200	-20°F to +450°F
S24/G24	B	75-F-4127	75	1600	200	-20°F to +450°F
S25/G25	GBL	60-F-5128	60	2200	350	-20°F to +450°F
S26/G26	GBL	75-F-5129	75	2200	300	-20°F to +450°F
S27/G27	GFLT	60-F-5130	60	2100	200	-40°F to +450°F
S28/G28	GFLT	75-F-5131	75	2200	180	-40°F to +450°F



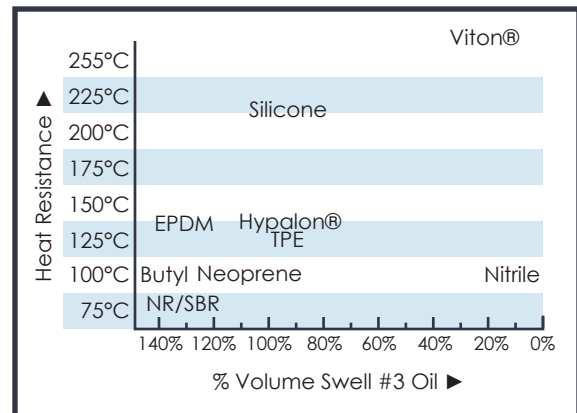
GBL and GFLT Viton® produced in molded slabs only.

Permeation Rates for Selected Elastomers

Material	Fuel C at 23°C	90% Fuel C, 10% Ethanol	85% Fuel C, 15% Methanol	Toluene
NBR (33% ACN)	669	1028	1118	----
HNBR (44% CAN)	230	553	828	----
Fluorosilicone	455	584	635	----
Nylon 12*	5.5	24	83	----
Viton® GLT-S	2.6	14	60	----
Viton® AL	0.8	6.7	32	----
Viton® A	0.8	7.5	36	49
Viton® GFLT-S	1.8	6.5	14	----
Viton® B	0.7	4.1	12	----
Viton® GF-S	0.7	1.1	3.0	7

Average permeation rate for ASTM Standard (g x mm) (m² x days)
*Mathematically normalized to 1 mm thickness using data from tests described in ASTM E96-53T.

Heat Resistance of Specialty Elastomers (ASTM D 2000/SAE J200)



Viton® retains good sealing performance and low volume swell in hot oil at elevated temperatures.

Relative Chemical Compatibility and Mechanical Properties for Viton® Fluoroelastomers

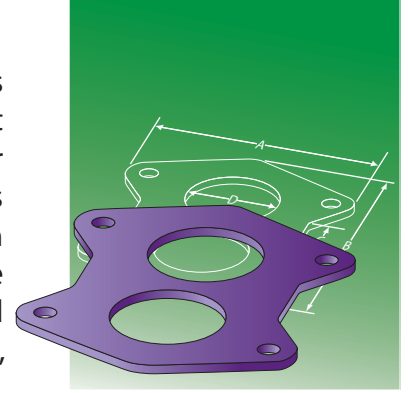
Chemical Environment	Viton® General Use Types					Viton® Specialty Types		
	A	B	F	GBL-S	GF-S	GLT-S	GFLT-S	ETP-S
Automotive and aviation fuels	1	1	1	1	1	1	1	1
Automotive fuels oxygenated with MEOH, ETOH, MTBE, etc.	4	2	1	2	1	4	1	1
Engine lubricating oil, SE and SF	2	1	1	1	1	1	1	1
Engine lubricating oil, SG and SH	3	2	2	1	1	2	1	1
Aliphatic hydrocarbon process fluids, chemicals	1	1	1	1	1	1	1	1
Aromatic fluids, steam mineral acids	2	2	1	1	1	2	1	1
Aqueous fluids, steam mineral acids	3	2	2	1	1	1	1	1
Strong base, high pH, caustic, aminos	4	4	4	2	2	2	2	1
Low molecular weight carbonyls 100% concentration (MTBB, MBK, MIBK, etc.)	4	4	4	4	4	4	4	1
Resistance to compression set	1	2	2	2	2	2	2	2
Low-temperature flexibility	2	2	3	2	3	1	1	2

Key: 1 = Excellent 2 = Fair to Good 3 = Poor 4 = Not Recommended

For more information please visit us at warco.com

FLUROELASTOMER SHEET

Fluroelastomers inherently exhibit properties of excellent resistance to heat, aggressive fuels and other chemicals. Their dynamic characteristics give critical seals and parts exceptional performance and longer life in aggressive environments. With a broad spectrum of applications, fluoroelastomers continue to solve sealing and other problems in major industries including: aircraft and aerospace, automotive, chemical processing, transportation, food, pharmaceuticals, petroleum refining and oil and gas exploration.



STYLE 90

Commercial Grade Fluoroelastomer

66% Fluorine
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Color/Finish
75	1/32 - 1/4	36, 48	1000	200	-20°F to +400°F	3.53 lb	Black/Smooth

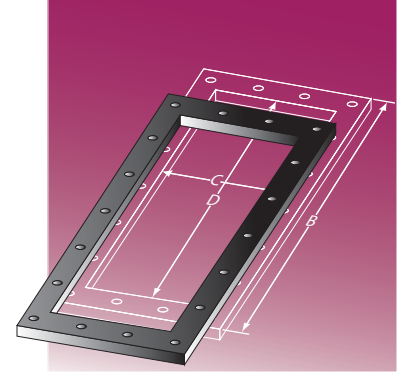
WARCO® BILTRITE®

We take pride in continually making innovations in our processes, equipment and materials to bring a high value product to our customers at a globally competitive price.



Please refer to Price Pages for Stock Items

SILICONE SHEET Silicone rubber can withstand a wider range of temperature extremes than nearly all other elastomers, remaining viable from -75°F to +500°F. Silicone has excellent tensile strength, elongation, tear strength, compression set and high temperature properties. Silicone can withstand many extreme environments and is inherently a fungus resistant material. It can resist water and many chemicals, including some acids, oxidizing chemicals and ammonia.



STYLE 69

Specification Grade Silicone

This product is designed to be used in applications where higher physical properties and lower compression set are required. It is resistant to extreme high and low temperature ranges and is proven to be an excellent gasketing material.

Red in Color.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36, 48**	800	450	-65°F to +450°F	2.48 lb	A-A-59588 2A & 2B, ZZ-R-765 2A & 2B, AMS 3301, ASTM D 2000 1GE 407
50	1/32 thru 1/4	36, 48**	800	350	-65°F to +450°F	2.5 lb	A-A-59588 2A & 2B, ZZ-R-765 2A & 2B, AMS 3302, ASTM D 2000 1GE 507
60	1/32 thru 1/4	36, 48**	750	300	-65°F to +450°F	2.67 lb	A-A-59588 2A & 2B, ZZ-R-765 2A & 2B, AMS 3303, ASTM D 2000 1GE 607
70	1/32 thru 1/4	36, 48**	750	250	-65°F to +450°F	2.71 lb	A-A-59588 2A & 2B, ZZ-R-765 2A & 2B, AMS 3304, ASTM D 2000 1GE 707

*Typical Values **72 inch width available upon request.

STYLE 60

COMSIL® Commercial Grade Silicone

WARCO BILTRITE's commercial grade silicone sheet is designed to be used in applications where physical properties are not critical but extreme temperature (high or low) resistance is still needed. This material also provides excellent UV and ozone resistance. It is non-toxic, chemically inert and fungus resistant.

Red in Color. Also available in Black, White, and Gray.

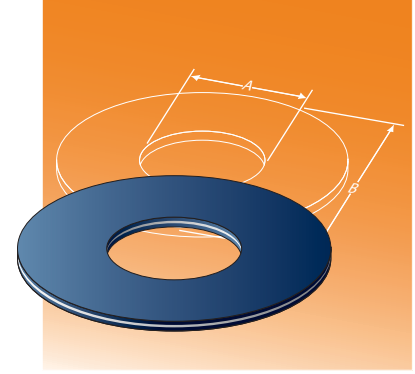
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Features
40	1/16 thru 1/4	36, 48*	600	450	-65°F to +400°F	2.44 lb	Available with Pressure Sensitive Adhesive (PSA).
50	1/16 thru 1/4	36, 48*	600	350	-65°F to +400°F	2.54 lb	
60	1/16 thru 1/4	36, 48*	600	300	-65°F to +400°F	2.59 lb	
70	1/16 thru 1/4	36, 48*	550	250	-65°F to +400°F	2.73 lb	
80	1/16 thru 1/4	36, 48*	500	150	-65°F to +400°F	2.89 lb	

*72 inch width available upon request.

CLOTH INSERTED [CI] SHEET

Cloth reinforcement enhances dimensional stability in flanged gasket applications with high compression loads. Suitable for use in air, hot water, low pressure steam and hydraulic services. Available in Regular and Reduced Ply. Good resistance to alkalis and acids.



STYLE 48

Regular Ply Cloth Inserted SBR Sheet

Cloth reinforcement enhances dimensional stability in flanged gasket applications with high compression loads. Suitable for use in air, hot water, low pressure steam, and hydraulic services. An SBR compound reinforced with a close weave polyester or cotton fabric. This construction includes one ply of fabric for each 1/16" thickness.

Temperature Range: -20°F to +170°F Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Fabric Weight	Fabric Type	Estimated Weight Per Linear Foot (1/8" x 48")	Oil Resistance	Specifications
65	1/16 thru 1/4	36 & 48	900	200	4.0 oz	Cotton or Polyester	3.9 lb	None	ASTM D 2000 1AA 609

Durometer and tensile strength of the above material is calculated with the respective material inserted into the sheet.

This construction includes one ply for each 1/16" thickness: 1/16 - 3/32 = 1 ply 1/8" = 2 plies 3/16" = 3 plies 1/4" = 4 plies

STYLE 49

Reduced Ply Cloth Inserted SBR Sheet

Like Style 48, reduced ply CI sheet addresses the need for dimensional stability in applications with high compression loads. Fabric content per thickness is one ply for 1/8", two plies for 3/16", and three plies for 1/4".

Temperature Range: -20°F to +170°F Finish: Smooth

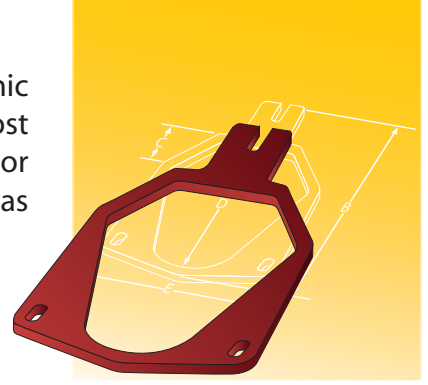
Durometer* Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation %	Fabric Weight	Fabric Type	Estimated Weight Per Linear Foot (1/8" x 48")	Oil Resistance	Specifications
65	1/8 thru 1/4	48 & 72	900	200	4.0 oz	Cotton or Polyester	4.1 lb	None	ASTM D 2000 1AA 609

*Durometer and tensile strength of the above material is calculated with the respective material inserted into the sheet.

This construction includes the following fabric content per thickness: 1/8" = 1 ply 3/16" = 2 plies 1/4" = 3 plies

Please refer to Price Pages for Stock Items

HYPALON® SHEET Hypalon® is a premium grade synthetic rubber. It offers resistance to most chemicals, heat and oil. Hypalon® is flame resistant, offers excellent color stability as well as weather and abrasion resistance. Hypalon® also has good resistance to alkalis and acids.



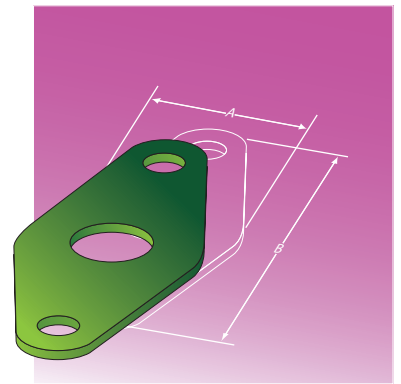
STYLE 59

Hypalon®

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Features
50	1/32 thru 1/4	36, 48	1100	350	-20°F to +220°F	2.54 lb	Good resistance to alkalis and acids.
60	1/32 thru 1/4	36, 48	1500	350	-20°F to +220°F	2.61 lb	

BUTYL SHEET Butyl (also known as Isobutylene-isoprene) is impermeable to air and used in many applications requiring airtight rubber. Butyl rubber has outstanding resistance to gases, vapors, heat aging, oxygen, ozone, sunlight, abrasion and tearing. It has excellent resistance to alkalis and acids and is good for electrical insulation.



STYLE 57

Butyl

Finish: Smooth

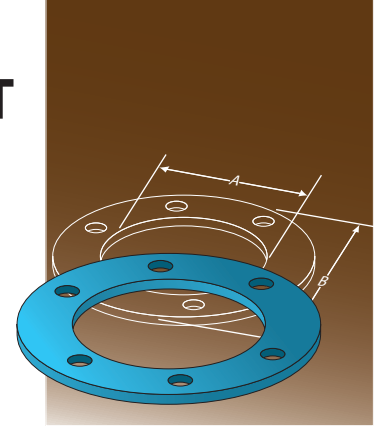
Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/32 thru 1/4	36, 48	1200	550	-40°F to +180°F	2.09 lb	ASTM D 2000 1AA 410
50	1/32 thru 1/4	36, 48	1200	450	-40°F to +180°F	2.2 lb	ASTM D 2000 1AA 510
60	1/32 thru 1/4	36, 48	1200	350	-40°F to +180°F	2.24 lb	ASTM D 2000 1AA 610
70	1/32 thru 1/4	36, 48	1300	300	-40°F to +180°F	2.3 lb	ASTM D 2000 1AA 710

*Typical Values

For more information please visit us at warco.com

THERMOPLASTIC ELASTOMER [TPE] SHEET

TPE is a diverse family of rubber-like materials that can be processed and recycled like thermoplastic materials. TPE combines the desirable characteristics of vulcanized rubber, such as flexibility and low compression set, with the processing ease of thermoplastics. TPE is used in a variety of applications in the automotive, construction, medical, food and beverage, electrical, appliance and consumer electronic markets. TPE's have environmental resistance comparable to general purpose EPDM rubber compounds, while its fluid resistance is comparable to general purpose polychloroprene rubber compounds; a unique combination that lends itself to a broad range of applications. Its colorability, feel and aesthetics open new design opportunities in consumer applications. Our TPE is available in hardnesses ranging from 55 Shore A to 50 Shore D. Type A is commonly used to measure hardness of softer rubbers; Type D is used to measure harder rubbers and plastics.



STYLE 80

General Purpose Grade TPE - Black A family of both soft and hard, black, versatile thermoplastic. This material combines good physical properties and chemical resistance for use in a wide range of applications. Specified for its performance properties in a variety of industries: major appliances, caster wheels, mass transit, safety and protection, marine and industrial machinery. **Black in color.**

Finish: Smooth

Durometer Hardness Shore ± 5	Durometer Type	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 24")	Specifications
55	A	1/64 thru 1/4	24	640	330	-50°F to +275°F	1.27 lb	MSAR20A
64	A	1/64 thru 1/4	24	1000	440	-50°F to +275°F	1.27 lb	
73	A	1/64 thru 1/4	24	1200	375	-50°F to +275°F	1.27 lb	
80	A	1/64 thru 1/4	24	1600	450	-50°F to +275°F	1.27 lb	
87	A	1/64 thru 1/4	24	2300	550	-50°F to +275°F	1.27 lb	
40	D	1/64 thru 1/4	24	2750	600	-50°F to +275°F	1.27 lb	
50	D	1/64 thru 1/4	24	4000	600	-50°F to +275°F	1.27 lb	

*Typical Values

Please refer to Price Pages for Stock Items

STYLE 81

General Purpose Grade TPE - Neutral A family of soft, as well as hard, colorable, versatile thermoplastic. This material combines good physical properties and chemical resistance for use in a wide range of applications. **Neutral in color.**
Finish: Smooth

Durometer Hardness Shore ± 5	Durometer Type	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 24")	Specifications DaimlerChrysler, Ford Worldwide, General Motors
55	A	1/64 thru 1/4	24	640	330	-50°F to +275°F	1.27 lb	-----
64	A	1/64 thru 1/4	24	1000	440	-50°F to +275°F	1.27 lb	MSAR20B, WSD-M2D379-A1, GMP.E/P.002
73	A	1/64 thru 1/4	24	1200	375	-50°F to +275°F	1.27 lb	MSAR20C, WSD-M2D380-A1, GMP.E/P.003
80	A	1/64 thru 1/4	24	1600	450	-50°F to +275°F	1.27 lb	MSAR20D, WSD-M2D381-A1, GMP.E/P.004
87	A	1/64 thru 1/4	24	2300	550	-50°F to +275°F	1.27 lb	MSAR20E, WSD-M2D382-A1, GMP.E/P.005
40	D	1/64 thru 1/4	24	2750	600	-50°F to +275°F	1.27 lb	MSAR30A, WSD-M2D441-A, GMP.E/P.006
50	D	1/64 thru 1/4	24	4000	600	-50°F to +275°F	1.27 lb	MSAR30B, WSD-M2D712-A1, GMP.E/P.007

*Typical Values

STYLE 83

NSF 61 Approved Grade TPE Complies with NSF 61 for plumbing applications in contact with potable water and NSF 51 for food processing equipment. Complies with FDA regulations for rubber articles intended for repeated use, as well as those in contact with non-fatty, non-oily foods as closures and sealing gaskets.

Neutral in color.

Finish: Smooth

Durometer Hardness Shore ± 5	Durometer Type	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 24")	Specifications
55	A	1/64 thru 1/4	24	640	330	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved
64	A	1/64 thru 1/4	24	1000	440	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved
73	A	1/64 thru 1/4	24	1200	460	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved
80	A	1/64 thru 1/4	24	1600	500	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved
87	A	1/64 thru 1/4	24	2300	500	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved
40	D	1/64 thru 1/4	24	2750	550	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved
50	D	1/64 thru 1/4	24	2700	550	-50°F to +275°F	1.27 lb	NSF 51 & 61 Approved

*Typical Values

STYLE 85

Flame Retardant Grade TPE A hard, colorable, flame retardant material. It exhibits good fluid resistance and contains non-ether brominated flame retardants (non-furan emitting). It does not contain added antioxidants or metal deactivators. **Neutral in color.**
Finish: Smooth

Durometer Hardness Shore ± 5	Durometer Type	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 24")	Specifications
80	A	1/64 thru 1/4	24	1050	410	-50°F to +275°F	1.27 lb	MSAR40A
85	A	1/64 thru 1/4	24	1480	445	-50°F to +275°F	1.27 lb	MSAR40B
92	A	1/64 thru 1/4	24	2020	530	-50°F to +275°F	1.27 lb	
36	D	1/64 thru 1/4	24	1700	490	-50°F to +275°F	1.27 lb	
50	D	1/64 thru 1/4	24	3720	660	-50°F to +275°F	1.27 lb	

*Typical Values



WARCO® BILTRITE®

Our research laboratory has catalogued and tested thousands of rubber formulations to meet Military, AMS, SAE, ASTM, NSF, FDA, and commercial specifications. We will gladly modify an existing formula or develop an entirely new formula to meet any unique situation.



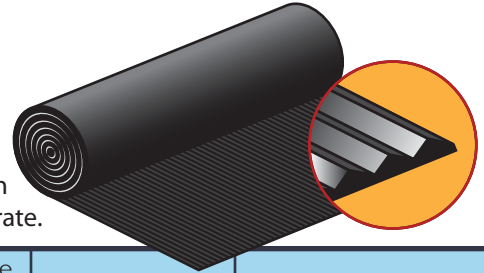
Please refer to Price Pages for Stock Items

MATS & MATTING Apartment buildings, malls, factories, hospitals, hotels, laboratories, laundries, locker rooms, country clubs, office buildings, retail establishments, military installations, utility plants, restaurants, supermarkets and skating rinks all have one thing in common - the need to provide a safe and comfortable medium for tenants, customers, employees, patients, guests, or members to walk or work on.

WARCO BILTRITE offers an extensive line of high quality USA made rubber matting and mats for an innumerable amount of applications. On the following pages you will find matting solutions which promotes safety, comfort, cleanliness and helps protect and extend flooring life.

Corrugated Matting

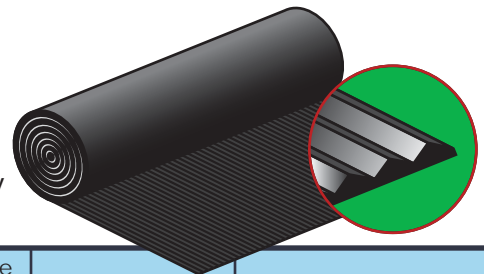
Most widely used where floor protection and safety are vitally important. Applications include general use in industry, home and office. Product strengths include extended wear, all-weather, strong sound absorption characteristics, cleanability and wear resistance. Will not curl, shrink, or separate.



Color	Thickness Inches	Width Inches	Approximate Roll Length	Approximate Weight per Square Yard	Surface Texture	Specifications
Black	1/8	24, 36, 48, 72	Full = 50 yards Half = 25 yards	6.3 lb	Corrugated	ASTM D 2000 1AA 706, FMVSS 302, UL94HF-1

Heavy Corrugated Matting

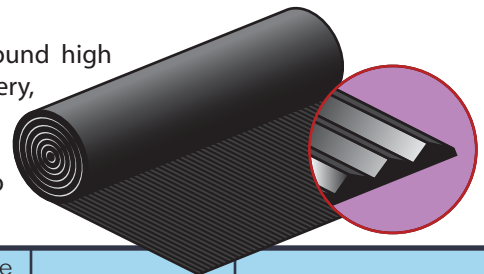
Applications include heavy traffic areas, aisles, hard floor surfaces and as anti-fatigue matting in retailing environments. Designed for extra heavy duty service, this product is easily beveled and perforated for entry mat use.



Color	Thickness Inches	Width Inches	Approximate Roll Length	Approximate Weight per Square Yard	Surface Texture	Specifications
Black	3/16	36, 72	25 yards	11 lb	Corrugated	ASTM D 2000 1AA 706, FMVSS 302, UL94HF-1
Black	1/4	24, 36, 48, 72	25 yards 72" = 12 yards	15 lb	Corrugated	ASTM D 2000 1AA 706, FMVSS 302, UL94HF-1
Black	3/8	72	6 yards	22 lb	Corrugated	ASTM D 2000 1AA 706, FMVSS 302, UL94HF-1

ASTM Switchboard Type 1 Matting

Expressly designed to protect against electrical shock when working around high voltage apparatus such as fuse boxes, control panels, and electrical machinery, when used as specified by ASTM D178-93, as amended. Proof tested at 20,000 volts AC. Maximum recommended use voltage is 17,000 volts. Dielectric strength 30,000 volts AC. Permanently branded. Please refer to specifications for additional information.

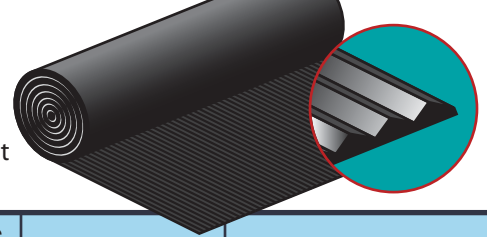


Color	Thickness Inches	Width Inches	Approximate Roll Length	Approximate Weight per Square Yard	Surface Texture	Specifications
Black	1/4	24, 30, 36, 48	25 yards	15 lb*	Corrugated	ASTM D 178-93 Type 1 Class 2 FMVSS 302

*Conforms to OSHA Regulations. Ref. 29 CFR 1920.137 & 29 CFR 1910.309(b)

Conductive Matting

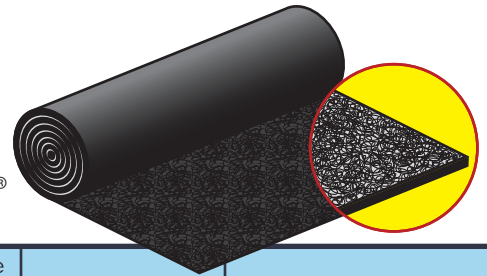
Electrically conductive, designed to carry off static electricity and prevent sparking. Permanently branded with "TBC CONDUCTIVE" in 1 inch lettering.



Color	Thickness Inches	Width Inches	Approximate Roll Length	Approximate Weight per Square Yard	Surface Texture	Surface Resistivity
Black	1/8	36	25 yards	5 lb	Corrugated	ASTM D 2000 1AA 706 (F10 ⁴ - 10 ⁶ OHMS/Sq.)

Clubhouse and Arena KleenRite® Matting

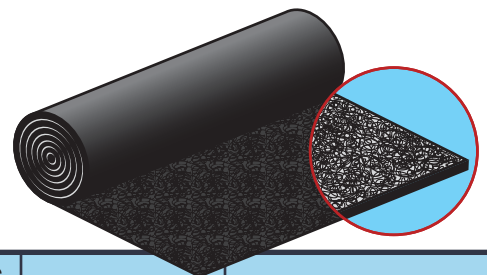
Perfect for pro-shops, locker rooms, skating rinks, gymnasiums, stadiums, driving ranges, and golf & maintenance carts. Clubhouse and Arena KleenRite® Matting is all-weather, long lasting, sound absorbing and easy to clean.



Color	Thickness Inches	Width Inches	Approximate Roll Length	Approximate Weight per Square Yard	Surface Texture	Specifications
Black	3/16	36	25 yards	11.6 lb	Non-Directional, Textured Finish	ASTM D 2000 1AA 720, FMVSS 302, UL94HF-1

Lightweight KleenRite® Matting

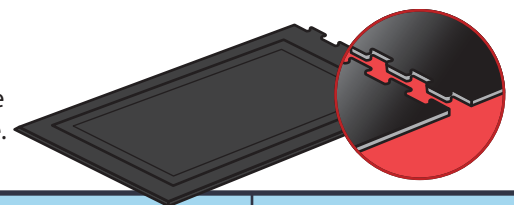
Lightweight KleenRite® matting is ideally suited for tool box lining, utility vehicles, step stools and a myriad of other applications.



Color	Thickness Inches	Width Inches	Approximate Roll Length	Approximate Weight per Square Yard	Surface Texture	Specifications
Black	.080	36, 48	Full = 50 yards Half = 25 yards	4.9 lb	Non-Directional, Textured Finish	ASTM D 2000 1AA 706, FMVSS 302, UL94HF-1

Tredair Interlocking Comfort Mats

The ultimate in comfort with honeycombed air cells providing resilience while creating long-lasting foot and leg comfort that decreases back fatigue. Greater comfort translates into increased productivity and wellness.

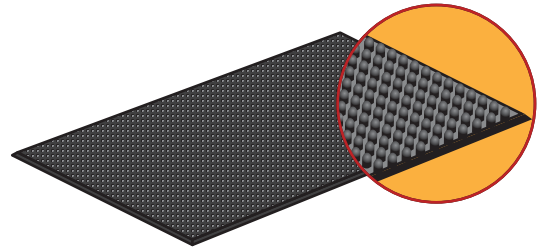


Color	Thickness Inches	Width Inches	Approximate Weight per Mat	Features	Characteristics
Black	1/2	28, 36	11.5 lb	Interlocking and beveled edge design allows flexibility to form any length	Standard or Grease Resistant

Please refer to Price Pages for Stock Items

Finger Trac Mats

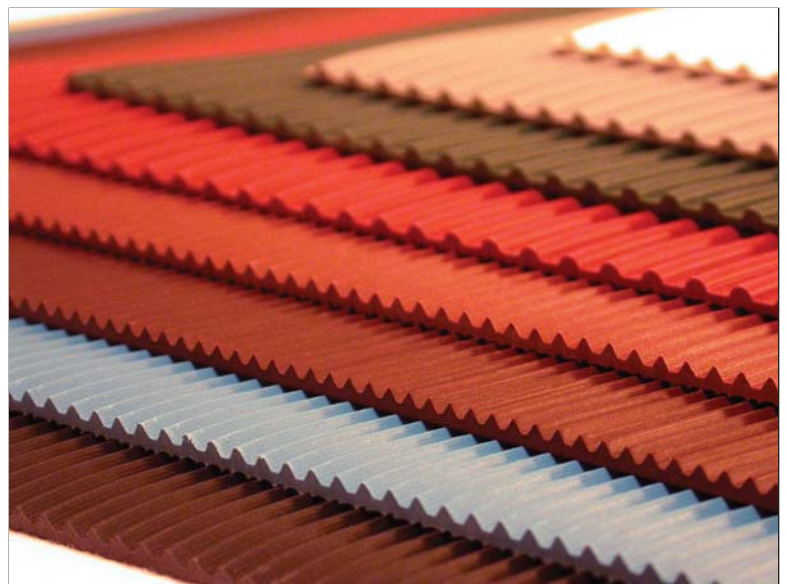
An all-weather multi-purpose mat perfectly suited for inside or outside use. Cleans shoe soles of dirt, grit, sand, mud and snow. Foreign materials are scraped from shoes by thousands of vertical rubber fingers thus eliminating unsightly tracking problems, reducing maintenance and adding to the life of rugs and flooring. Beveled edges on all sides enhance safety and cleanliness. Finger Trac mats are also ideally suited for workstations to provide comfort and protection from hard floors.



Color	Sizes Inches	Approximate Weight per Mat	Features
Black	24 x 32	10 lb	High grade all-weather rubber material designed with thousands of vertical "fingers." Underside longitudinal skid-resistant ribs allowing for proper drainage while preventing movement.
Black	32 x 39	18 lb	
Black	36 x 72	32 lb	

WARCO® BILTRITE®

Our in-house mixing capability ensures that product quality is under control from the very beginning. This coupled with extensive testing are your assurance that we deliver a quality compound that will handle the rigors of its application.



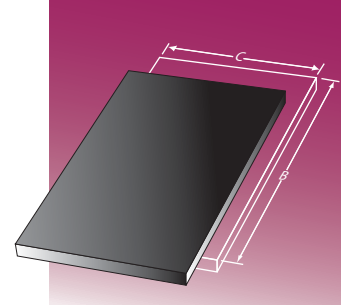
For more information please visit us at warco.com

MOLDED SLABS

STYLE 73

20 Durometer Neoprene Molded Slabs

Available in lengths up to 30'. Longer lengths available, please call for quote.
Finish: Smooth



Durometer Hardness Shore A ± 5	Thickness Inches	Sizes	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Characteristics
20	1/8 thru 1	36 x 36 48 x 48	750	650	-30°F to +200°F	2.2 lb	100% Neoprene Base

*Typical Values

STYLE 74

Commercial Neoprene Molded Slabs

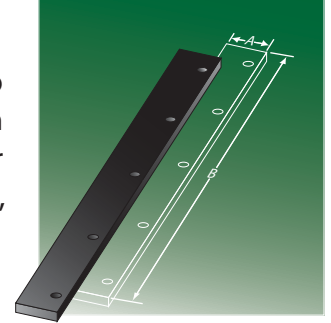
Available in lengths up to 30'. Longer lengths available, please call for quote.
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Sizes	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	5/16 thru 2	36 x 36 48 x 48	900	400	-30°F to +200°F	2.34 lb	ASTM D 2000 1BC 409
50	5/16 thru 2	36 x 36 48 x 48	1200	350	-30°F to +200°F	2.53 lb	ASTM D 2000 1BC 512
60	5/16 thru 2	36 x 36 48 x 48	1200	350	-30°F to +200°F	2.63 lb	ASTM D 2000 1BC 612
70	5/16 thru 2	36 x 36 48 x 48	1200	250	-30°F to +200°F	2.73 lb	ASTM D 2000 1BC 712
80	5/16 thru 2	36 x 36 48 x 48	1200	150	-30°F to +200°F	2.53 lb	ASTM D 2000 1BC 812

*Typical Values

Please refer to Price Pages for Stock Items

CHUTE LINING/SKIRTBOARD A product used to control wear on surfaces impacted by solid materials and slurries. Good abrasion and tear resistance. Protects surfaces such as chutes, skirtboards, impact areas, tumblers, blast curtains and shot blast applications.



STYLE 26

Premium Wear Chute Lining/Skirtboard

A premium compound with higher tensile and elongation. Good resistance to abrasion, gouging and tearing. Good for sand blast curtains and shot blast applications. **Black in color.** Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Features
65	1/8 thru 1	48	2500	350	-20°F to +170°F	3.0 lb	Good abrasion and tear resistance

STYLE 23

Tuff-Stuff® Tuff-Stuff® Natural Rubber is an outstanding abrasion resistant material. Tuff-Stuff® delivers an optimum combination of tear, abrasion, noise, and impact resistance resulting in reduced maintenance costs and longer service life from capital equipment. Tuff-Stuff® and Tuff-Stuff Plus® have each been specifically formulated and field proven to deliver the ultimate in durability and long life for high production mineral and aggregate facilities.

Tear Resistance (Die C) = 200 PPI. **Red in color.**

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile* psi	Ultimate Elongation* %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Specifications
40	1/8 thru 2	36, 48	3200	600	-40°F to +160°F	1.93 lb	ASTM D 2000 4AA 432 F17 G21

*Typical Values

STYLE 25

Commercial Wear Chute Lining/Skirtboard

A commercial blended SBR compound used to control wear on surfaces impacted by solid materials and slurries. Good abrasion and tear resistance. Protects surfaces such as chutes, skirtboards, impact areas, and tumblers. **Black in color.**

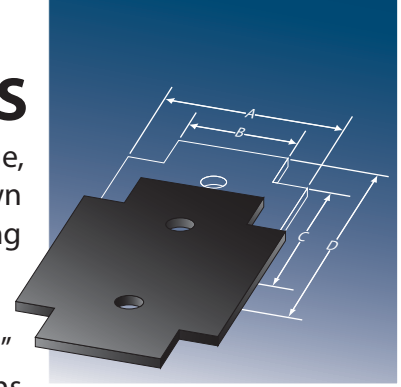
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width Inches	Tensile psi	Ultimate Elongation %	Temperature Range	Estimated Weight Per Linear Foot (1/8" x 36")	Features
65	1/8 thru 1	48	1500	300	-20°F to +170°F	3.3 lb	Good abrasion and tear resistance
70	1/8 thru 1	48	800	250	-20°F to +170°F	3.8 lb	Good abrasion and tear resistance

For more information please visit us at warco.com

UNSUPPORTED AASHTO BEARING PADS

WARCO BILTRITE manufactures a full line of bearing pads for use in bridge, building and reservoir construction. We formulate and mix our own compounds, maintain rigid quality control throughout the manufacturing process and thoroughly test finished products to ensure excellent performance and load bearing resistance. Available in Natural Rubber and Neoprene formulations, in rolls 36" and 48" wide in thicknesses up to 1" and in molded forms 36" and 48" widths in lengths up to 30' (longer lengths available). For use where conformance to AASHTO specifications is required (Note: some states have additional requirements – identify all requirements or submit individual state specifications when ordering). Custom shapes and sizes are also available on a special order basis.



STYLE 71: Neoprene Unsupported AASHTO Bearing Pads

Available in lengths up to 30'. Longer lengths available, please call for quote. Also available in 36" x 36" and 48" x 48" slabs.

Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width	Tensile min. psi	Ultimate Elongation min. %	Temperature Range	Weight Per Linear Foot 36"	Test Method
50	1/4 thru 1	36, 48	2250	400	-40°F to +220°F	0.5 - 15.8	Hardness: ASTM D 2240 Tensile: ASTM D 412 Elongation: ASTM D 412
60	1/4 thru 1	36, 48	2250	350	-40°F to +220°F	0.5 - 16	Hardness: ASTM D 2240 Tensile: ASTM D 412 Elongation: ASTM D 412
70	1/4 thru 1	36, 48	2250	300	-40°F to +220°F	0.5 - 12.2	Hardness: ASTM D 2240 Tensile: ASTM D 412 Elongation: ASTM D 412

Certain states specify requirements other than standard AASHTO specifications. When ordering, identify all requirements or submit individual state specifications. Above meets the Standard Specifications for Highway Bridges, adopted by the American Association of State Highway and Transportation Officials. AASHTO M251 Unsupported Neoprene Bearing Pads are also available.

Test Method	Property	50 ± 5 Durometer	60 ± 5 Durometer	70 ± 5 Durometer
ASTM D 573 Heat Resistance 70h at +212°F	Change in durometer hardness, max. points	15	15	15
	Change in tensile, max. %	-15	-15	-15
	Change in ultimate elongation, max. %	-40	-40	-40
ASTM D 395 Compression Set	22h at 212°F, max. %	35	35	35
ASTM D 1149 Ozone	100 pphm ozone in air by volume, 20% strain, 100°F ± 2°F, 100h mounting procedure D518, Procedure A	no cracks	no cracks	no cracks
ASTM D 746 Low Temperature Brittleness	Grade 3, at -40°F	no failure	no failure	no failure
ASTM D 1043 Instantaneous Thermal Stiffening	Grade 3, at -40°F	Stiffness at test time shall not exceed 4 times the stiffness measured at 73°F		
Low Temperature Crystallization Quad Shear Test	Grade 3 14 Days at -15°F	Stiffness at test time and temperature shall not exceed 4 times the stiffness measured at 73°F with no time delay		

Please refer to Price Pages for Stock Items

STYLE 72: Natural Rubber Unsupported AASHTO Bearing Pads

Natural Rubber Unsupported AASHTO Bearing Pads are available in Grade 3 and Grade 4 in lengths up to 30'. Longer lengths available, please call for quote. Also available in 36" x 36" and 48" x 48" slabs. **Black in Color.**
Finish: Smooth

Durometer Hardness Shore A ± 5	Thickness Inches	Width	Tensile psi	Ultimate Elongation %	Temperature Range	Weight Per Linear Foot 36"	Test Method
50	1/4 thru 1	36, 48	2250	450	Grade 3: -40°F to +170°F Grade 4: -50°F to +170°F	0.5 - 11.8	Hardness: ASTM D 2240 Tensile: ASTM D 412 Elongation: ASTM D 412
60	1/4 thru 1	36, 48	2250	400	Grade 3: -40°F to +170°F Grade 4: -50°F to +170°F	0.5 - 12	Hardness: ASTM D 2240 Tensile: ASTM D 412 Elongation: ASTM D 412
70	1/4 thru 1	36, 48	2250	300	Grade 3: -40°F to +170°F Grade 4: -50°F to +170°F	0.5 - 12.2	Hardness: ASTM D 2240 Tensile: ASTM D 412 Elongation: ASTM D 412

Certain states specify requirements other than standard AASHTO specifications. When ordering, identify all requirements or submit individual state specifications. Above meets the Standard Specifications for Highway Bridges, adopted by the American Association of State Highway & Transportation Officials.

Test Method	Property	50 ± 5 Durometer	60 ± 5 Durometer	70 ± 5 Durometer
ASTM D 573 Heat Resistance 70h at 158°F	Change in durometer hardness, max. points	10	10	10
	Change in tensile, max. %	-25	-25	-25
	Change in ultimate elongation, max. %	-25	-25	-25
ASTM D 395 Compression Set	22 hours at 158°F, max. %	25	25	25
ASTM D 1149 Ozone	25 pphm ozone in air by volume, 20% strain, 100°F ± 2°F 48h mounting procedure D518, Procedure A	no cracks	no cracks	no cracks
ASTM D 746 Low Temperature Brittleness	Grade 3, at -40°F	Grade 4, at -55°F	no failure	no failure
ASTM D 1043 Instantaneous Thermal Stiffening	Grade 3, Tested at -40°F	Grade 4, Tested at -50°F	Stiffness at test time shall not exceed 4 times the stiffness measured at 73°F	
Low Temperature Crystallization Quad Shear Test	Grade 3, 14 Days at -15°F	Grade 4, 21 Days at -35°F	Stiffness at test time and temperature shall not exceed 4 times the stiffness measured at 73°F with no time delay	

For more information please visit us at warco.com

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please visit us at warco.com

STANDARD TERMS AND CONDITIONS OF SALE

Industrial Rubber Products

WARCO BILTRITE products are sold commercially for multiple applications as determined by the end-user. Information on certain physical properties of our various styles and grades is provided in our product literature, but such information is unrelated to any particular use or application. Each purchaser or user of a sheet rubber product must initially determine its suitability for the intended application, use or purpose by appropriate and adequate testing, engineering and chemical analysis. Consultation with qualified engineers and testing laboratories is recommended. WARCO BILTRITE does not recommend any of its products for any particular use or application. The purchaser or user shall assume full responsibility for the adequacy and suitability for the intended use. Sheet rubber products may fail as a result of temperature variances, excessive pressures, abrasion or damaging substances. The wear life of rubber products is limited by the circumstances and conditions of use. Rubber materials should be inspected regularly and should be replaced as appropriate for operational and safety requirements and the prevention of injury or damage to persons and property.

All of our sheet rubber products, except where indicated, are a proprietary blend of various polymers formulated to meet designated ASTM D 2000 specifications. In our Commercial products, the named polymer is not necessarily the polymer representing the highest percentage of the polymer blend. The various specification call outs are a valuable guide in selecting the type and grade of sheet rubber for a particular application. In any application, the customer should evaluate the performance requirements and conditions that will affect the working life of the rubber product. Where appropriate, field testing may need to be performed before the type of sheet rubber is selected. If the customer's quality assurance incorporates the testing of rubber material, the test criteria should include the physical property call outs of the ASTM specification that are most critical to its application. Polymer type alone may not be adequate for the selecting of the rubber that is best suited for a specific application.

ASTM basic requirements for physical properties are based on values obtained from standard laboratory test specimens prepared and tested in accordance with the applicable ASTM test methods. Test results from specimens prepared from finished products may not duplicate values obtained from standard test specimens. Per ASTM D2000, Section 7.1. Buyer agrees that when standard test specimens are cut from finished parts in accordance with Practice D 3183, a deviation to the extent of 10% on tensile strength and elongation values is permissible.

1. PAYMENTS: Seller may require full or partial payment in advance at any time if in its sole judgment, the financial condition of the Buyer does not justify the terms of payment specified herein. A charge of 1-1/2 percent (1-1/2%) per month (or at the highest rate permitted by law) shall be payable on all overdue accounts. Orders will not be processed until payment terms are approved by Seller's Credit Department.

2. PRICES SUBJECT TO CHANGE: Seller may change any price, shipment or freight term in effect at any time and from time to time by giving Buyer at least fifteen (15) days written notice thereof. Buyer's failure to give Seller a written objection to any such change within ten (10) days after receipt of notice shall constitute acceptance of such change. Where objection is made, Seller shall advise Buyer within ten (10) days thereafter whether Seller will (a) continue to deliver at the price or on the terms in effect prior to the announced change, or (b) cancel this contract. Any cancellation shall be effective upon Buyer's receipt of Seller's notice and shall be without further obligation of either party to the other except to perform or pay all obligations accrued through date of cancellation. Provided however, that in the case of non-stock items ordered specifically for Buyer's use, Seller reserves the right to increase prices to cover the increases in its costs arising from increases in the cost of materials or labor rates which become effective between the date of this acknowledgment and the date of shipment. In such event, this Agreement shall remain in effect at the price adjusted to reflect said increases.

3. MINIMUM PURCHASE: Stock Item: One roll minimum. Non-stock and Custom items: Please request quote.

4. TAXES: Buyer shall reimburse Seller for all taxes, excises or other charges which Seller may be required to pay to any governmental entity (national, state or local) upon the sales, production or transportation of the goods sold hereunder.

5. DELIVERY: Unless otherwise specified herein, goods will be delivered F.O.B. point of shipment, freight allowed on specified pounds. Seller will determine the point of origin of shipment, the method of transportation, and the routing of shipment. Partial deliveries shall be accepted by the Buyer and paid for at the prices and terms hereunder. Seller does not guarantee any delivery or completion date. In the event of delay in delivery of goods, Seller shall not be liable or responsible for any loss, damage, expense or charge of any kind, direct or indirect, suffered or incurred by Buyer as a result of such delay.

6. TITLE AND RISK OF LOSS: Title and risk of loss in the goods shall pass to Buyer upon Seller's delivery to carrier at the shipping point, notwithstanding the terms of shipment specified herein.

7. WARRANTIES AND DISCLAIMERS: Goods furnished under this Agreement shall conform to the description herein. All first quality goods are warranted to be free from defects in material and workmanship at the time of shipment. Seller shall convey good title to buyer. Seller further warrants that the goods sold hereunder do not infringe any valid United States patent, but Seller does not warrant, however, that the use of the goods or products made therefrom, either alone or in conjunction with other materials, will not infringe any valid United States patent. THE WARRANTIES SET FORTH IN THIS PROVISION ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE. SELLER MAKES NO WARRANTY, EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. ALL PRODUCTS ARE SOLD AND WARRANTED ONLY PURSUANT TO OUR PUBLISHED TERMS AND CONDITIONS OF SALE. WE ARE NOT RESPONSIBLE TO THE USER FOR ANY CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES RESULTING FROM PRODUCT USE OR PROCESSING.

8. CLAIM PERIOD AND REMEDIES: Prompt written notice shall be given to Seller of any claim of failure of goods to conform to the warranties hereunder. Should any failure to conform to these warranties appear under normal and proper use within the period of one (1) year from the date of shipment to the Buyer, Seller shall correct such nonconformity, at its option, by repair or replacement of the defective goods, or by the refund of the purchase price thereof with due allowance made for the service rendered by the goods returned. In no event shall Buyer commence any action under this Agreement later than one year after receipt of the goods. The remedies provided above are the Buyer's sole remedies for any failure of Seller to comply with its obligations. Correction of any non-conformity by repair or replacement or by refund of the purchase price of the nonconforming goods (less allowance for use) shall constitute fulfillment of all obligations of Seller with respect thereto, whether the claims of Buyer are based in contract, or tort (including negligence), or otherwise.

9. LIMITATION OF LIABILITY: Seller shall not be liable in contract, in tort (including negligence), or otherwise for damage or loss of other property, loss of profits or revenue, loss of use of property or equipment, claims of customers of the Buyer, or for any special, indirect, incidental, or consequential damages whatsoever. Under no circumstances shall Seller's liability exceed the purchase price of the goods in respect of which damages are claimed.

10. PRODUCTS SUITABILITY AND LENGTH OF SERVICE: Determination of the suitability of the goods for the uses and applications contemplated by Buyer and others shall be the sole responsibility of the Buyer or user. No guaranty is given with respect to length of service on any particular application. Suggestions or recommendations made by Seller in its product literature concerning uses or applications of the goods are believed to be reliable, but Seller makes no warranty or guaranty of results to be obtained since the conditions of the use and application by Buyer and others are beyond Seller's control.

11. FORCE MAJEURE: Seller shall not be liable for failure to perform or for delay in performance due to fire, flood, strike or other labor difficulty (Seller shall not be required to settle any labor matter against its own best judgment), act of God, act of any government authority, acts or omissions of the Buyer, riot, embargo, explosion, accident, breakdown of machinery or equipment, shortage of or inability to obtain fuel, power, raw materials, equipment, transportation of the product at usual prices or usual sources, or due to any other cause beyond its reasonable control. Quantities so affected by such circumstances may be eliminated without liability, but this Agreement shall otherwise remain unaffected.

12. RETURNED GOODS: No goods may be returned without Seller's prior written authorization. Each request for exchange or return shall describe the condition of the goods and the reasons for the requested return or exchange. If the Seller agrees to accept a return or exchange, the Buyer shall pay return transportation cost and a restocking charge; the restocking charge will be determined based upon the Seller's ability to resell the exchanged or returned material and the reason for the return.

13. QUANTITY VARIANCE: The quantity of goods delivered may be within 10% more or less of the quantity specified (20% more or less on made-to-order products) and shall be charged at the unit price herein.

14. ENTIRE AGREEMENT: This Agreement constitutes the complete and final Agreement of sale and purchase of the goods specified herein and supersedes all prior contracts and discussions. No modification hereof shall be effected by the use of purchase order, acknowledgment, acceptance, or other forms at variance with or in addition to the terms and conditions contained herein. No modification shall be effected in any manner other than in writing and signed by the party claimed to be bound thereby.

15. GOVERNING LAW: This contract shall be governed by and construed under the laws of the State of California.

16. TRANSPORTATION POLICY: All deliveries will be made F.O.B. Point of Shipment, freight calculated and billed when releases for shipment are below the stated freight allowances for the product ordered, released and shipped. For specific freight allowances please refer to catalog sections for products ordered. Freight will be allowed on mixed product shipments if the weight shipped from one location at the same time exceeds 2000 pounds. Orders including both stock and made-to-order items will not be combined for weight unless the stock items are stocked at the manufacturing plant producing the made-to-order items and the customer is willing to wait for shipment at one time to one destination. If weight allowances are different in a shipment or release the largest applies. All price page and catalog weights are approximate and actual shipping weights may vary from these listings. In case of dispute, actual shipping weights will apply. Origin, Method of Shipping and Routing: Seller will determine the point of origin of shipment, the method of transportation and the routing of shipment. Purchasers requiring shipment by a method or routing other than that will be billed any excess or premium in transportation charges. If Seller elects to ship by other than common carrier, the full transportation charges will be prepaid and any freight charges billable (under allowances) will be calculated and billed. Purchaser Pick Up: No allowance will be made in lieu of transportation if the buyer accepts shipment at the factory or the warehouse or freight station. Transportation charges will not be deducted from the selling price.

17. CONCEALED DAMAGE: Seller will not participate in any settlement of claims for concealed damage. Upon receipt of any shipment, Buyer must unpack immediately and, if damage is discovered, must:

- Not move the product from the point of examination
- Retain shipping container and packing material
- Notify the carrier's agent to make an inspection and confirm in writing
- Send Seller a copy of the carrier's inspection report
- Make a claim for damage with the carrier
- Recovery for any damage to merchandise incurred during shipping shall be the sole responsibility of Buyer. Any such damage shall not defeat or otherwise affect the obligation of Buyer to pay all amounts due Seller with respect to the damaged goods.

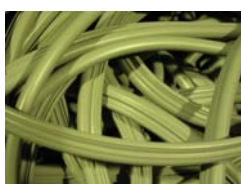
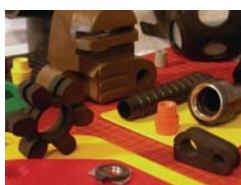
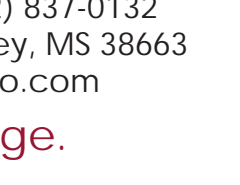
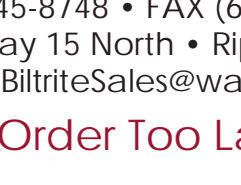
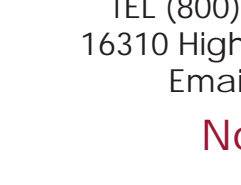
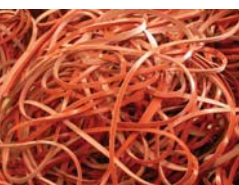
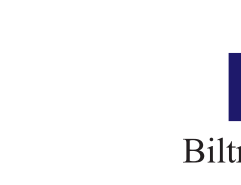
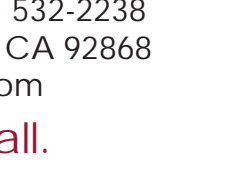
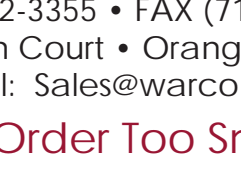
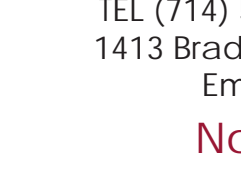
18. CANCELLATION: Requests for cancellation or modification of orders must be submitted in writing and received by Seller at least 2 days prior to shipment. Any cancellation or modification will be effective only when acknowledged in writing by Seller and can be made subject to status of production of goods. Orders for merchandise produced specifically for a customer cannot be canceled once goods are produced.

19. ACCEPTANCE OF ORDERS: Issuance of any Catalog or Price List does not constitute an offer for the sale of any products described therein. All orders are subject to the acceptance of Seller. All orders accepted by Seller are accepted on the understanding that Buyer, by placing the order, has agreed to these Standard Terms & Conditions of Sale and that they are therefore part of the Buyer's order.

20. ATTORNEYS' FEES AND VENUE: In any action to collect amounts due Seller with respect to sales made to Buyer, arising out of or relating to this Agreement or any such sales, or in which a party seeks an interpretation of this Agreement or asserts it as a defense, the prevailing party shall be entitled to recover attorneys' fees in an amount determined by the Court to be reasonable, as well as such party's costs of suit. All notices, requests, claims and other communications by Buyer with respect to this Agreement or sales hereunder shall be directed to Seller at its executive offices at 1413 Braden Court, Orange, California 92668 (714) 532-3355. Any action brought by Buyer against Seller must be brought in a state or federal court located in Orange County, California, and any action brought in any other location shall, upon appropriate motion by Seller, be dismissed.

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No Order Too Small.

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No Order Too Large.