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Shaping Innovative Solutions

STANDARD PRODUCTS CATALOG

Your source for rubber & plastic molded products, vibration & shock isolators, extrusions, sheet goods & gaskets and much more...

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LONGWOOD

Longwood Elastomers

As a dependable and innovative supplier of rubber, composite and specialty products, Longwood adds value for its customers with superior reliability and on-time delivery. World-class customers across diverse market sectors depend on Longwood for its breadth of capabilities from large volume, small components to low volume, large components. Longwood's extensive application expertise extends across all areas of the industrial, consumer and transportation markets.

Longwood's commitment to continuous improvement and our technical knowledge make us a cost-effective, dependable, on-time supplier. Companies around the globe look to Longwood Elastomers for our experience in the design and manufacture of rubber, plastic and specialty products. We have an expertise for bonding materials — rubber to fabric, rubber to metal and rubber to plastic. At Longwood, we design performance into every application, choosing the ideal material and manufacturing process for each of your parts to meet performance requirements on time and on budget.

Longwood Means Value

- The right process with ideal materials to meet performance requirements
- Comprehensive capabilities including injection, compression and transfer molding, high-speed continuous molding, calendering, mandrel building and extrusion processes
- Support operations with design and manufacture of traditional flashless tools
- Just-in-time production and delivery translates to cost-competitive solutions
- Dependable products supported by Six Sigma, Kaizen, Statistical Process Controls and Design of Experiment Methods
- Value-added services including chlorinated seals, powder coatings, parts packaged into convenient kits, special packaging development to accommodate assembly and slitting roll goods to customers' size needs
- Inspection processes to meet stringent quality standards of industrial and consumer product manufacturers

SHAPING INNOVATIVE SOLUTIONS

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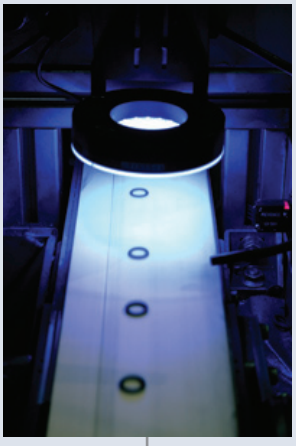

Locations

Longwood Elastomers, Inc.
USA Headquarters (SALES)
The Summit Green Building
706 Green Valley Road, Suite 212
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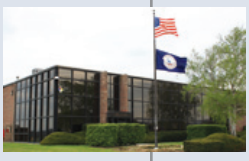
336-272-3710



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Brenham, TX 77833
979-830-1111

Longwood Elastomers, S.A.
Poligono Industrial Las Casas
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42005 - Soria, Spain
011-34-975-224-561

Quality

From initial design through manufacture, Longwood builds quality into every part. Our Advanced Product Quality Planning (APQP) groups, representing all pertinent disciplines, collaborate to engineer both product and process. Every aspect of the design and manufacturing process is scrutinized to ensure that important criteria are met and quality systems established.

In support of the demanding, highly technical markets we serve, many Longwood facilities are registered to the ISO-9000 series and are TS 16949 compliant.

Join the companies worldwide who trust Longwood Elastomers to deliver effective and efficient solutions with reliable, cost-efficient products.

TABLE OF CONTENTS

Bumpers — Section 10

Stem Bumpers ..... Pg. 2
Adhesive Bumpers ..... Pg. 4
Grommet Bumpers ..... Pg. 5
Screw Bumpers ..... Pg. 9
Tack Bumpers ..... Pg. 12
Recess Bumpers ..... Pg. 13
Bumper Strips ..... Pg. 21
Trailer & Dock Bumpers ..... Pg. 22
Bumper Mounts ..... Pg. 26
Miscellaneous Bumpers ..... Pg. 28

Grommets — Section 11

Grommets ..... Pg. 34
Vinyl Grommets ..... Pg. 38
Square Grommets ..... Pg. 39
Horse Shoe Grommets ..... Pg. 40
Large Grommets ..... Pg. 41
Miscellaneous Grommets ..... Pg. 42
Military Grommets ..... Pg. 46

Caps & Plugs — Section 12

Laboratory Stoppers ..... Pg. 50
Tips & Caps ..... Pg. 51
Vinyl /Polyethylene Tips & Caps ..... Pg. 53
Vinyl Caps & Plugs ..... Pg. 54
Tapered Caps & Plugs ..... Pg. 55

LONGWOOD

Caps & Plugs (continued) — Section 12

Nylon Locking Hole Plugs ..... Pg. 56
Miscellaneous Rubber Tips & Caps ..... Pg. 57
Miscellaneous Rubber Caps ..... Pg. 59
Load-Bearing Furniture Glides ..... Pg. 60

Washers & Bushings — Section 13

Nylon Washers ..... Pg. 62
Rubber Washers ..... Pg. 63
Bushings ..... Pg. 64
Nylon Machine Screw Insulators ..... Pg. 66
Miscellaneous Rubber Washers & Bushings ..... Pg. 68

Suction Cups — Section 14

Material-Handling Suction Cups ..... Pg. 72
Rubber Suction Cups ..... Pg. 73

Bellows & Boots — Section 15

Dipped Bellows - Standard Designs ..... Pg. 80
Rubber Boots & Bellows ..... Pg. 81
Air Intake Elbows ..... Pg. 93
Rubber Scupper Lips ..... Pg. 94
Rubberized Fabric Boots ..... Pg. 96

TABLE OF CONTENTS

O-Rings — Section 16

O-Rings ..... Pg. 98
Seals ..... Pg. 105

Vehicular Parts — Section 18

Rubber Splash Guards ..... Pg. 108
Miscellaneous Splash Guards ..... Pg. 110
Wheel Chocks ..... Pg. 111
Rubber Hooks ..... Pg. 112
Metal Hardware ..... Pg. 113
Miscellaneous ..... Pg. 114

Vibration & Shock Isolators — Section 20

Flex Bolt Stud Mounts ..... Pg. 116
Torsional Control Mounts ..... Pg. 117
Center Bonded Mounts ..... Pg. 121
Compression Mounts ..... Pg. 121
Grommet Mounts ..... Pg. 122

Extrusions — Sections 30 - 38

Tubing ..... Pg. 126
O-Ring Cord ..... Pg. 131
Locking Trim ..... Pg. 135
P-Strips ..... Pg. 139
U-Channels ..... Pg. 142
Weatherstripping ..... Pg. 147
T, H, L, E Strips ..... Pg. 150
Locking Channels ..... Pg. 154
Large Extrusions ..... Pg. 156

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Sheet Goods & Gaskets

Section 40

Die Cut ..... Pg. 160
MIL-Spec Sheet ..... Pg. 161
Commercial Sheet ..... Pg. 162
Fluoro Elastomers ..... Pg. 165
Sponge Sheet ..... Pg. 166
Sponge Strips ..... Pg. 167

General Information ..... Pg. 169
Engineering Guide ..... Pg. 170

BUMPERS 10

Stem Bumpers Pg. 2

Adhesive Bumpers Pg. 4

Grommet Bumpers Pg. 5

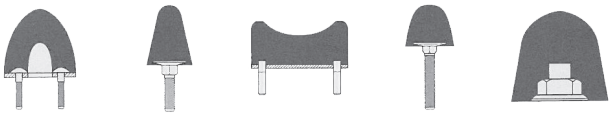
Screw Bumpers Pg. 9

Tack Bumpers Pg. 12

Recess Bumpers Pg. 13

Bumper Strips Pg. 21

Trailer & Dock Bumpers Pg. 22

Bumper Mounts  Pg. 26

Misc. Bumpers Pg. 28

STEM BUMPERS

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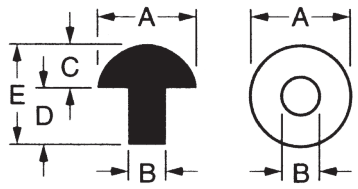
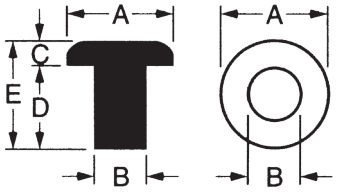


RUBBER

Rubber Stem Bumpers - By "A" Dimension

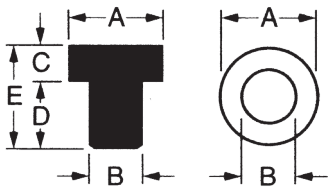
Part #	A Head Diameter	B Stem Diameter	C Head Height	D Stem Length	E Overall Thickness
10-101	5/16	3/16	1/8	3/16	5/16
10-102	5/16	3/16	3/16	3/16	3/8
10-103	11/32	3/16	5/32	3/16	11/32
10-104	3/8	3/16	1/8	3/16	5/16
10-105	1/2	3/16	1/4	3/16	7/16
10-106	5/8	5/16	5/16	1/4	9/16
10-107	3/4	3/8	3/8	3/8	3/4
10-108	7/8	1/2	3/8	15/32	27/32
10-109	15/16	19/32	19/32	15/32	1 1/16



RUBBER

Rubber Stem Bumpers - By "A" Dimension

Part #	A Head Diameter	B Stem Diameter	C Head Height	D Stem Length	E Overall Thickness
10-110	3/8	7/32	3/16	1/4	7/16
10-111	7/16	1/4	3/16	1/4	7/16
10-112	1/2	1/4	7/32	1/4	15/32
10-113	1/2	17/64	7/64	17/64	3/8
10-114	29/64	19/64	5/32	5/16	15/32
10-115	15/32	3/8	1/16	3/8	7/16
10-116	5/8	7/16	7/32	1/2	23/32
10-117	41/64	29/64	7/64	25/64	1/2
10-118	13/16	5/8	3/8	1/2	7/8
10-119	1 1/4	3/4	1/4	11/16	15/16
10-120	23/32	5/16	7/16	1/4	11/16



VINYL

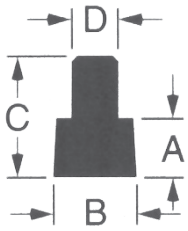
Vinyl Stem Bumpers - By "A" Dimension

Part #	A Head Diameter	B Stem Diameter	C Head Height	D Stem Length	E Overall Thickness
10-130	7/16	.168	3/32	9/32	3/8
10-131	7/16	1/4	3/16	5/16	1/2
10-132	7/16	5/16	5/32	9/32	7/16
10-133	7/16	5/16	5/32	5/32	5/16
10-134	7/16	5/16	5/32	5/32	5/16

The stem bumpers can be made either in polyethylene or vinyl. Normally stocked in black and white.
*Hole thru part

ILLUSTRATIONS BELOW NOT TO SCALE

Plastic Stem Bumpers



POLYETHYLENE

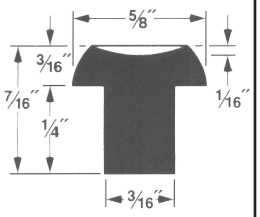
Plastic Stem Bumpers - By "A" Dimension

Part #	A	B	C	D
10-150	.06	.31	.20	.18
10-151	.08	.50	.46	.38
10-152	.18	.44	.44	.28
10-153	.19	.41	.44	.25
10-154	.19	.44	.40	.33
10-155	.19	.41	.44	.25
10-156	.38	.88	.88	.63

Polyethylene (available in colors)

Rubber Stem Bumpers

10-160



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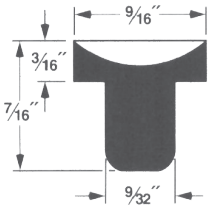

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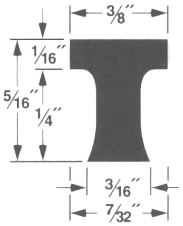

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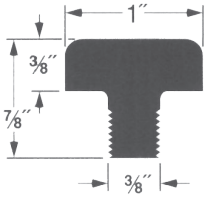

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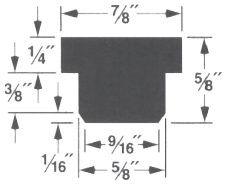

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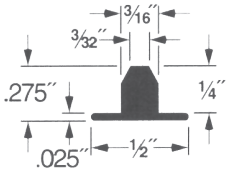

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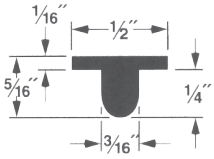

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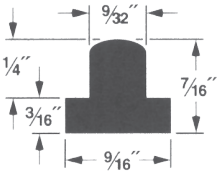

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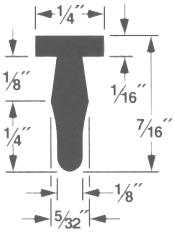

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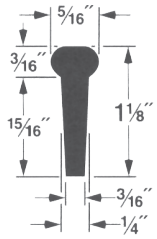

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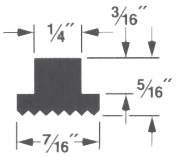

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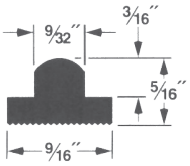

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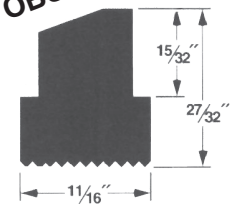

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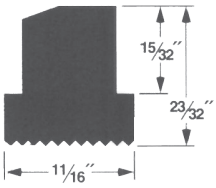

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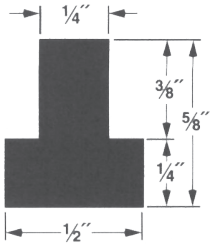

ADHESIVE BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Bumpon™ products are made of a permanently resilient **polyurethane** polymer formulated especially for its unique high coefficient of friction, non-slip, non-marring features. An aggressive, high tack, pressure-sensitive adhesive protected with an easy release liner makes application fast and easy.

10-8000 Standard Series Adhesive Bumpers

Part #	Width (Inches)	Height (Inches)	Description	Color
10-8003	0.44	0.20	Dome	Black White Grey Brown
10-8017	0.75	0.38	Dome	Black White Grey Brown
10-8027	0.63	0.32	Dome	Black White Grey Brown
10-8009	0.88	0.40	Circular	Black White Grey Brown
10-8032	1.88	0.66	Circular	Black White Grey Brown
10-8112	0.50	0.14	Circular	Black White Grey Brown
10-8008	0.50	0.12	Tapered Square	Black White Grey Brown
10-8014	0.81	0.52	Square Truncated Cone	Black White Grey Brown
10-8018	0.50	0.23	Tapered Square	Black White Grey Brown
10-1023	0.81	0.30	Tapered Square	Black White Grey Brown

Shelf life: one year from date of purchase

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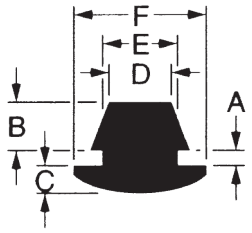


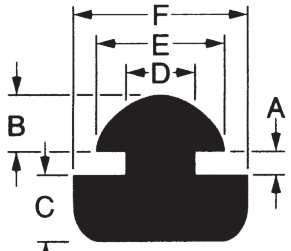
VINYL

Vinyl Grommet Bumpers - By "A" Dimension

Part #	A Groove Width	B Head Height	C Bumper Height	D Groove Diameter	E Head Diameter	F Bumper Diameter
10-200*	1/16	1/8	3/16	3/16	7/32	1/2
10-202	3/64	3/16	25/64	5/32	15/64	3/8

These button head bumpers are easily installed. Will not drop out due to aging. Non slip properties. Normally stocked in white and black.

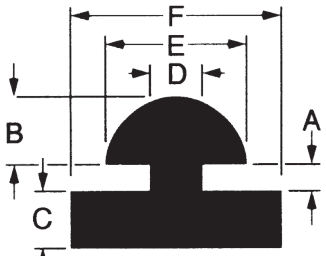
*Concave head for slight suction effect.



RUBBER

Rubber Bumpers - By "F" Dimension

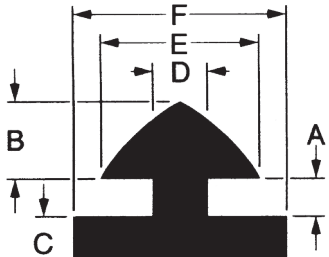
Part #	A Groove Width	B Head Height	C Bumper Height	D Groove Diameter	E Head Diameter	F Bumper Diameter
10-205	1/32	1/8	1/8	1/8	3/16	5/16
10-206	1/16	1/8	5/32	1/4	5/16	1/2
10-207	1/8	11/64	11/32	9/32	7/16	5/8



RUBBER

Rubber Bumpers - By "F" Dimension

Part #	A Groove Width	B Head Height	C Bumper Height	D Groove Diameter	E Head Diameter	F Bumper Diameter
10-208	1/16	7/64	3/32	5/32	7/32	3/8
10-209	1/32	1/8	5/32	1/4	5/16	3/8
10-210	1/16	1/8	1/4	1/4	5/16	1/2
10-211	1/8	5/32	1/16	1/4	11/32	17/32
10-212	1/8	5/32	1/8	1/4	11/32	17/32
10-213	1/8	1/8	1/8	1/4	11/32	9/16
10-214	5/64	5/32	1/8	9/32	3/8	9/16
10-215	1/16	3/32	5/32	11/32	13/32	9/16
10-216	3/16	3/16	5/16	1/2	11/16	1



RUBBER

Rubber Bumpers - By "F" Dimension

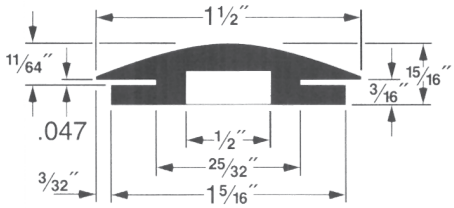
Part #	A Groove Width	B Head Height	C Bumper Height	D Groove Diameter	E Head Diameter	F Bumper Diameter
10-220	1/16	3/16	3/32	3/16	1/4	1/2
10-221	1/16	3/16	5/32	3/16	1/4	1/2
10-222	7/64	5/64	1/16	5/32	1/4	1/2
10-223	3/64	3/32	1/8	3/16	1/4	5/16
10-217	3/64	1/8	3/32	1/4	5/16	7/16
10-218	3/64	1/8	3/16	1/4	5/16	7/16
10-219	3/32	1/8	1/4	5/16	3/8	5/8

GROMMET BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

10-230



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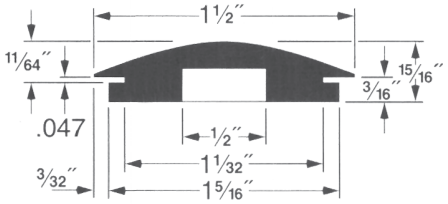

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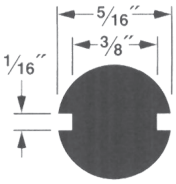

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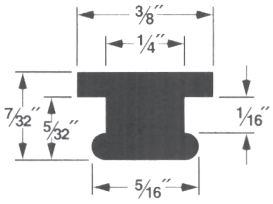

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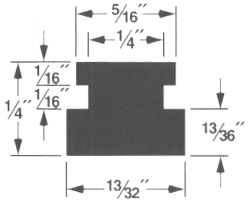

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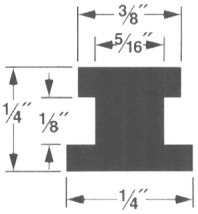

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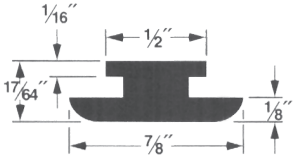

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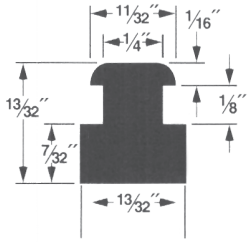

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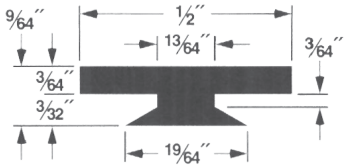

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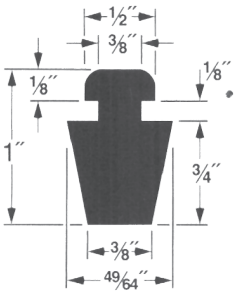

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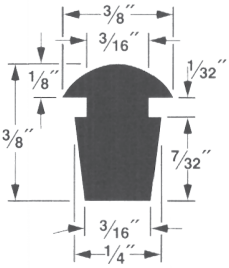

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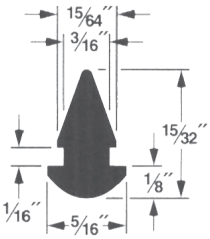

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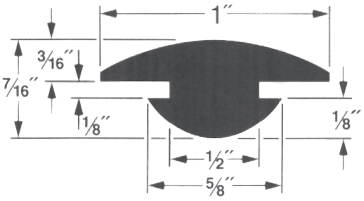

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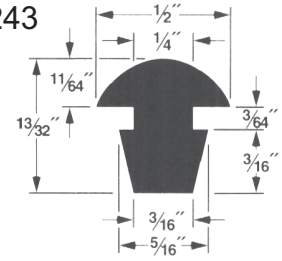

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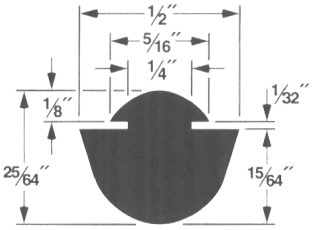

ILLUSTRATIONS BELOW NOT TO SCALE

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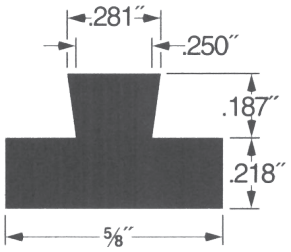

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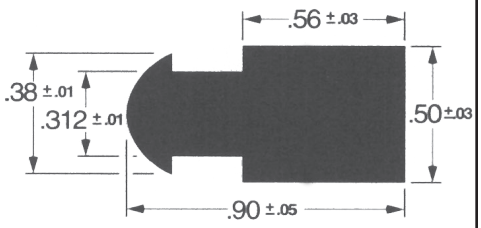

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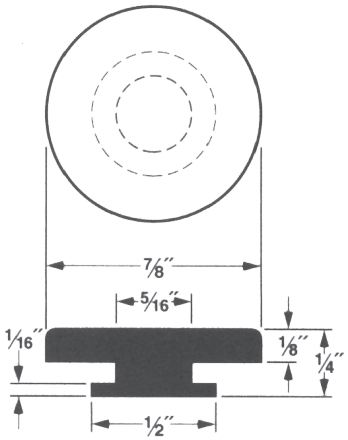

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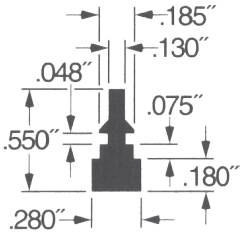

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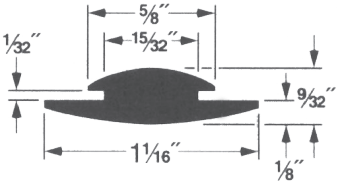

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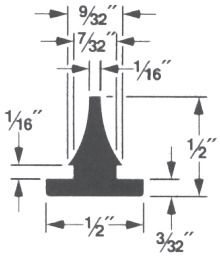

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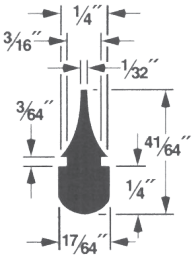

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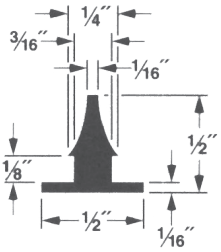

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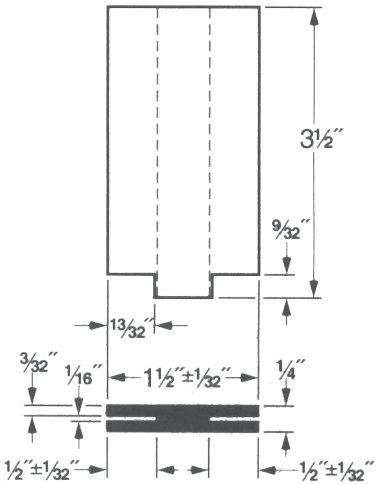
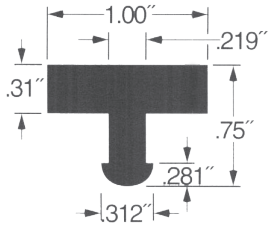


GROMMET BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

10-6215R



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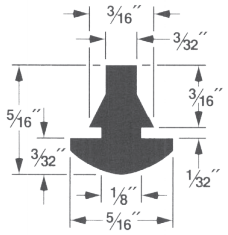

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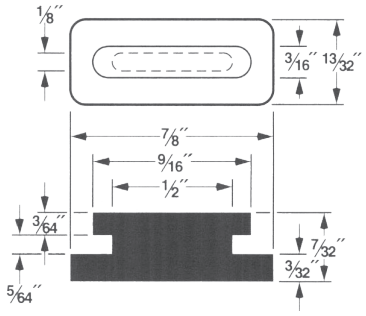

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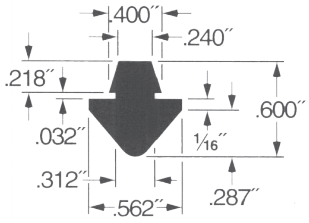

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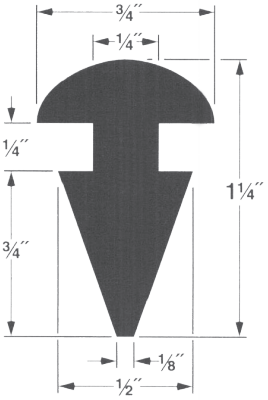

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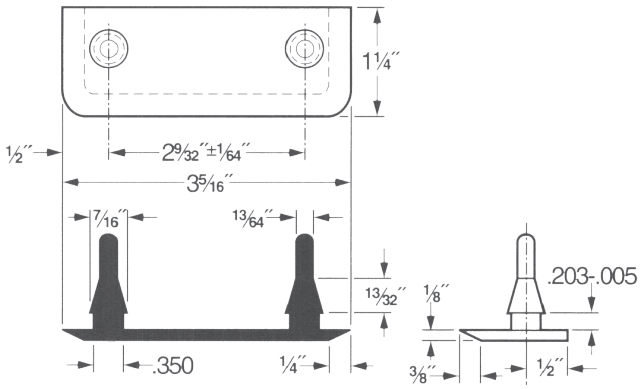

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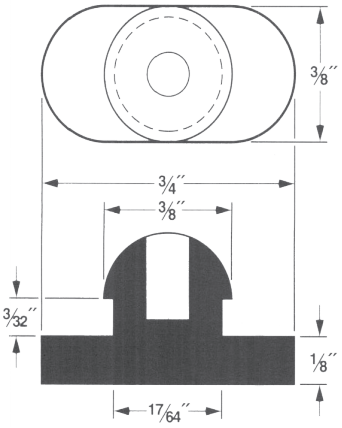

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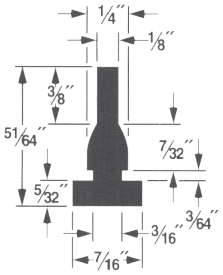
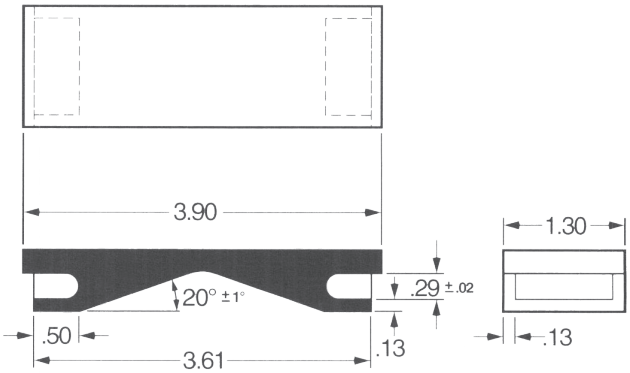
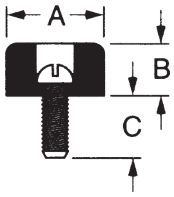
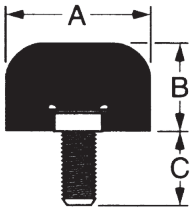


10-612R



ILLUSTRATIONS BELOW NOT TO SCALE





Rubber Headed Screw Bumpers - By "A" Dimension

Part #	Style Number	A	B	C	Screw Type
10-270	500 MSB Black	½	¼	¼	#6-32MS
10-271	3/4 MSB Black	¾	7⁄16	⅜	#8-32MS
10-272	1 MSB Black	1	½	⅜	#10-24MS

Note: See Section 20 for bumper mounts.

Application: Used as vibration mounts or feet on shop equipment, large appliances, and baby furniture, to name a few.

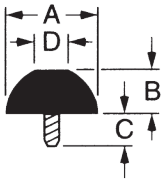


FIGURE 1

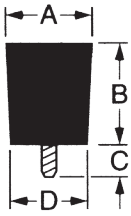


FIGURE 2

Type "MB" Machine Screw Bumpers - By "A" Dimension

Part #	Figure	A	B	C	D	Screw Type
10-273	1	7⁄16	¼	¼	—	#6-32MS
10-274	1	½	¼	¼	3⁄16	#6-32MS
10-275	1	½	¼	¼	3⁄16	#8-32MB
10-276	1	⅝	5⁄16	¼	5⁄16	#8-32MB
10-277	1	¾	⅜	¼	5⁄16	#8-32MB
10-278	1	⅞	7⁄16	½	7⁄16	#10-32MB
10-279	1	1	½	½	½	#10-32MB
10-280	1	1 ⅛	½	½	⅜	#10-32MB
10-281	2	1	⅝	¼	⅝	#6-32MB
10-282	2	1	⅝	¼	⅝	#8-32MB

Available in non-marking materials and a variety of colors.

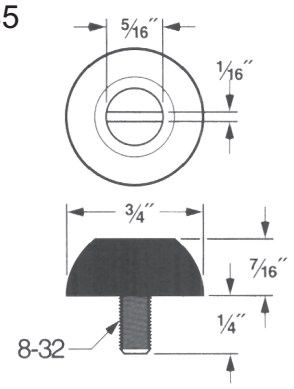
SCREW BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

See Vibration Isolators (Section 20) for male and female threaded bumpers

10-285



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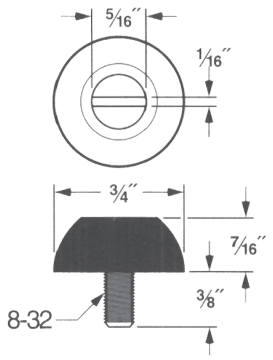

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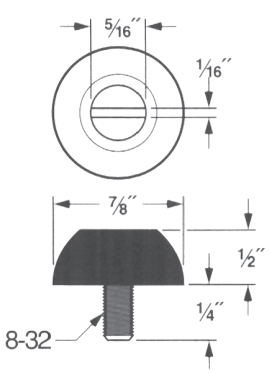

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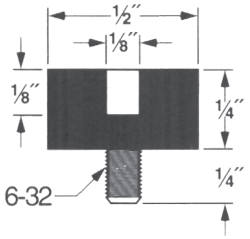

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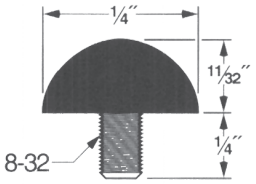

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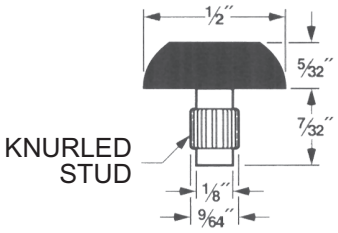

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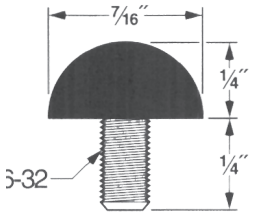

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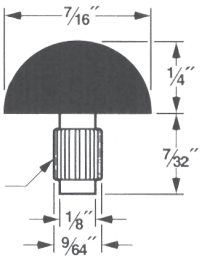

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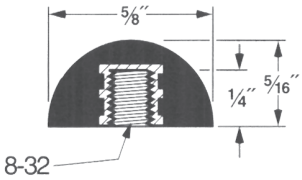

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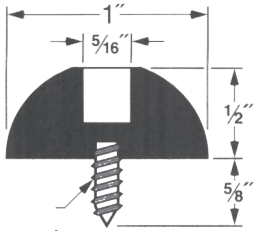

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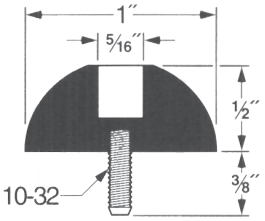

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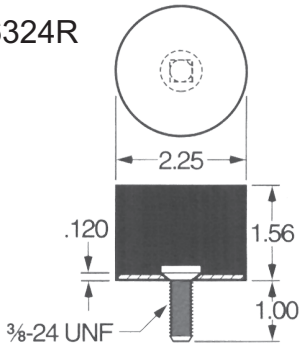


ILLUSTRATIONS BELOW NOT TO SCALE

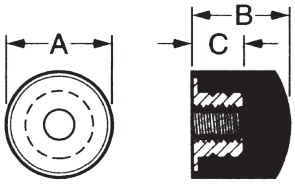
Longwood's rugged **neoprene** or **urethane** bumpers are bonded to solid steel cores and are used to guard, stop, align, position or protect parts through each step of manufacturing. Bumpers are shipped from stock and are available in many standard sizes and shapes.

1200 Series Bumper Mounts with Female Thread

Neoprene Part #	Urethane Part #	Dia. A	Length B	C	Female Thread
*10-1200N	*10-1200U	¾	⅝	⅜	5/16-18 X ¼
*10-1201N	*10-1201U	¾	⅝	⅜	5/16-18 X ¼
10-1202N	*10-1202U	1 ¼	1 ¼	¾	⅜-16 X ½
10-1203N	10-1203U	1 ¼	1 ¼	¾	⅜-24 X ½
10-1204N	10-1204U	1 ¼	1 ¼	¾	½-13 X ½
10-1205N	10-1205U	1 ¼	1 ¼	¾	½-20 X ½
10-1206N	10-1206U	1 ¼	1 ¼	¾	7/16-20 X ½
10-1207N	10-1207U	1 ¼	1 ¼	¾	⅝-18 X ½
10-1208N	10-1208U	1 ¾	1 ⅝	⅞	⅝-11 X ⅝
10-1209N	10-1209U	1 ¾	1 ⅝	⅞	⅝-18 X ⅝
10-1210N	10-1210U	2 ¼	2 ¼	1 ¼	¾-10 X 1
10-1211N	10-1211U	2 ¼	2 ¼	1 ¼	¾-16 X 1
10-1212N	10-1212U	2 ¼	2 ¼	1 ¼	1-8 X 1

Neoprene 45-45 Durometer
Urethane 80-90 Durometer

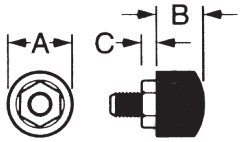
*Neoprene 45 or 70 Durometer
Urethane 60 or 80 Durometer



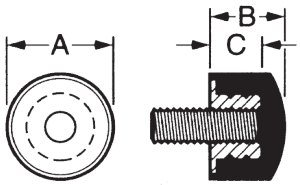
1200 Series Bumper Mounts with Male Thread

Neoprene Part #	Urethane Part #	Dia. A	Length B	C	Male Thread
10-1213N	10-1213U	¾	⅝	.175	5/16-18 X ½
10-1214N	10-1214U	¾	⅝	.175	5/16-18 X 1 ¼
10-1215N	10-1215U	1 ¼	1 ¼	¾	⅜-16 X ⅝
10-1216N	10-1216U	1 ¼	1 ¼	¾	⅜-16 X 1 ¼
10-1217N	10-1217U	1 ¼	1 ¼	¾	⅝-18 X 1
10-1218N	10-1218U	1 ¼	1 ¼	¾	½-13 X ¾

Neoprene 45-45 Durometer
Urethane 80-90 Durometer

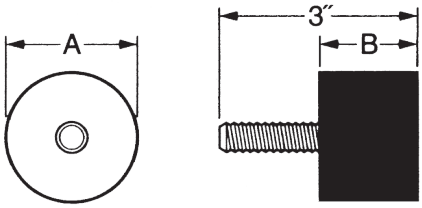


10-1213 and 10-1214 only



Neoprene 60 Durometer Bumper

Part Number	Dia. A	Length B	Male Thread
10-1219N	2	1 ⅝	⅜-16 X ⅝

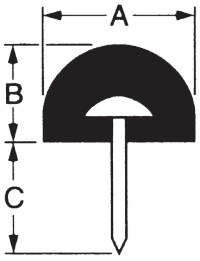


Note: Also see Section 20 for Bumper Mounts

TACK BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



RUBBER

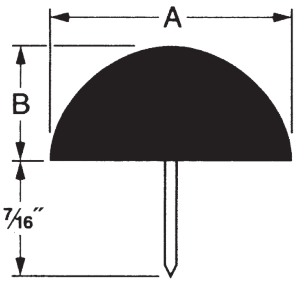
Rubber Tack Bumpers			
Part #	A	B	C
10-300	3/8	7/32	3/8+
10-301	1/2	1/4	3/8+
10-302	5/8	5/16	3/8+
10-303	3/4	3/4	3/8+
10-304	7/8	7/16	1 1/32+
10-305*	3/8	1/4	3/8
10-306*	1/2	5/16	3/8
10-307*	1/2	5/16	3/8
10-308*	5/8	3/8	3/8
10-309*	5/8	3/8	3/8
10-310*	3/4	7/16	1/2
10-311*	3/4	7/16	1/2

*Colors available

RUBBER

Bar Pattern Bumper				
Part #	Style	Length	Width	Height
10-312	White	2 1/2	1/2	1/2

Hard Plastic Tacks

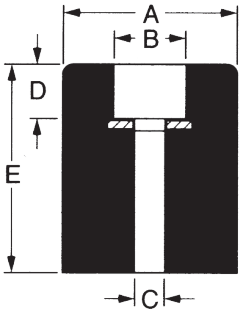


PLASTIC

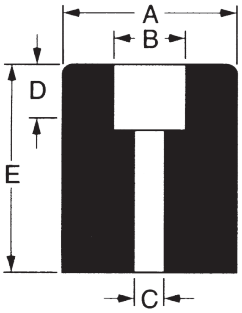
Hard Plastic Tacks			
Part #			
White	Black	A	B
10-313	10-314	3/8	1/4
10-315	10-316	1/2	1/4
10-317	10-318	5/8	5/16
10-319	10-320	3/4	3/8

RECESS BUMPERS

ILLUSTRATIONS BELOW NOT TO SCALE



With Washer
RUBBER



Without Washer
RUBBER

Recess Bumpers - By "A" Outside Diameter

Part #	A Outside Diameter	B Recess Diameter	C Bore Diameter	D Recess Depth	E Total Height
10-400	½	15⁄64	⅛	3⁄16	¼
10-401	½	17⁄64	⅛	5⁄32	¼
10-402	½	¼	3⁄32	5⁄32	¼
10-403	½	¼	⅛	7⁄32	7⁄16
10-404	½	5⁄16	5⁄32	3⁄16	⅜
10-405	19⁄32	9⁄32	5⁄32	3⁄16	11⁄32
10-406	⅝	9⁄32	5⁄32	⅛	9⁄32
10-407	⅝	9⁄32	5⁄32	¼	13⁄32
10-408*	⅝ - 21⁄32	5⁄16	5⁄32	¼	½
10-409	⅝	¼	1⁄16	5⁄32	9⁄32
10-410	23⁄32	¼	⅛	7⁄32	7⁄16
10-411	¾	5⁄16	5⁄32	¼	13⁄32
10-412	¾	⅜	3⁄16	5⁄16	9⁄16
10-413*	¾ - 51⁄64	11⁄32	11⁄64	¼	25⁄32
10-414	¾	⅜	5⁄32	¼	1
10-415	¾	5⁄16	⅛	¼	¾
10-416	¾	⅜	⅛	5⁄32	⅜
10-417	¾	⅜	3⁄16	¼	9⁄16
10-418	13⁄16	15⁄32	¼	7⁄16	13⁄16
10-419	1	½	7⁄32	¼	½
10-420	1	17⁄32	9⁄32	5⁄16	9⁄16
10-421	1	⅜	5⁄32	¼	1
10-422	1 1⁄32	9⁄16	3⁄16	⅜	⅝
10-423	1 ¼	¼	¼	¾	17⁄8
10-424	1 ¼	⅜	¼	¾	11⁄4
10-425	1 ½	15⁄32	¼	½	¾
10-426	1 ½	½	3⁄16	11⁄32	⅝
10-427	1 ½	¾	5⁄16	11⁄32	⅝
10-428	1 ½	¾	¼	⅜	¾
10-429	1 ½	¾	¼	⅜	1 ½

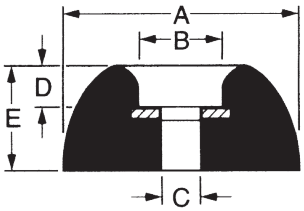
*Slightly tapered with wide base

Longwood can custom-mold to your specifications!
1-800-829-7231

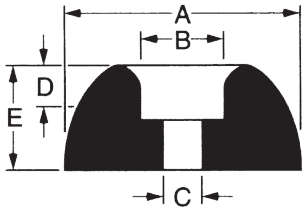
RECESS BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



With Washer
Rubber



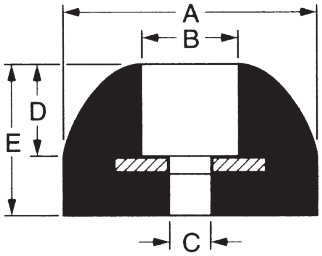
Without Washer
Rubber

Recess Bumpers - By "A" Dimension

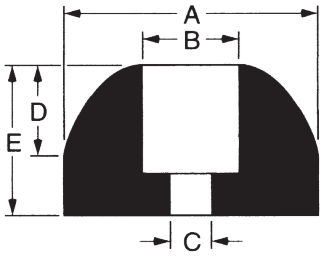
Part #	A Outside Diameter	B Recess Diameter	C Bore Diameter	D Recess Depth	E Total Height
10-450	1/2	9/32	1/8	3/32	3/16
10-451	3/4	1/4	1/8	11/64	17/64
10-452	15/16	3/8	3/16	3/16	13/32
10-453	15/16	3/8	3/16	7/32	3/8
10-454	31/32	3/8	3/16	3/16	11/32
10-455	1	3/8	5/32	1/4	1
10-456	1	3/8	3/16	3/16	7/16
10-613R*	2 1/2	1 1/8	3/8	1/2	1

Note: Recess bumpers can be supplied with or without washers. Add W to part number for washer.

*Available in white or black.



With Washer
Rubber



Without Washer
Rubber

Recess Bumpers - By "A" Dimension

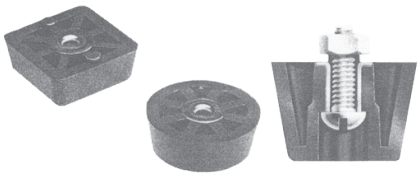
Part #	A Outside Diameter	B Recess Diameter	C Bore Diameter	D Recess Depth	E Total Height
10-469	7/16	1/4	1/8	5/32	1/4
10-457	15/16	3/8	3/16	7/32	3/8
10-458	1/2	1/4	1/8	3/16	11/32
10-459	1/2	1/4	1/8	5/32	1/4
10-460	1/2	7/32	1/8	3/32	3/16
10-461	17/32	1/4	1/8	5/32	9/32
10-462	5/8	1/4	3/32	3/16	3/8
10-463	5/8	5/16	5/32	5/32	7/16
10-464	7/8	3/8	3/16	9/32	17/32
10-465	7/8	5/16	3/16	9/32	5/8
10-466	1	1/4	1/8	7/16	13/16
10-467	1	9/32	5/32	9/32	1/2
10-468	13/32	7/36	3/16	13/32	5/8

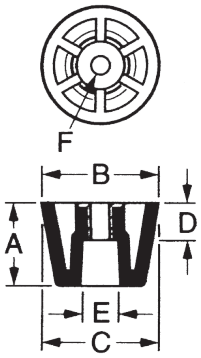
Note: Recess bumpers can be supplied with or without washers. Add W to part number for washer.

ILLUSTRATIONS BELOW NOT TO SCALE

Longwood's **"Thermoplastic Rubber"** cabinet feet provide high traction and absorb shocks without marking surfaces. Nickel-plated steel insert absorbs the total fastener load. Foot is mounted with machine screws or rivets to eliminate distortion. Excellent resistance to ozone, aging and most chemicals. Stock colors are black and gray, but a wide range of colors are available on special order. Standard shape available in a number of different strength capacities. Square and rectangular feet shapes now shapes now available for contemporary designs.

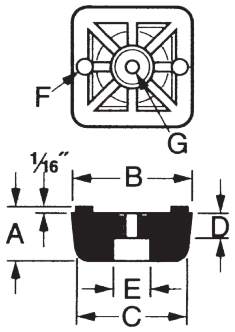
Thermoplastic Rubber





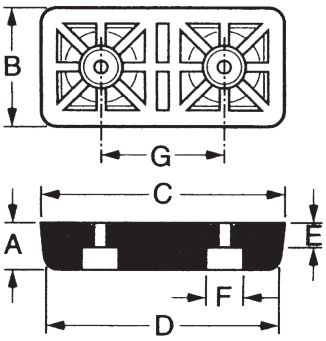
Round Feet

Part #	A	B	C	D	E	F Mach. Screw
10-9100	.375	.562	.437	.187	.219	# 4 Round
10-9101	.437	.750	.594	.187	.266	#6 Round
10-9102	.625	.937	.719	.297	.359	#8 Round
10-9103	.875	1.125	.923	.484	.468	#10 Truss
10-9104	1.125	1.250	1.000	.484	.468	#10 Truss
10-9105	.312	.625	.500	.187	.281	#4 Truss
10-9106	.375	.750	.625	.187	.344	#6 Truss
10-9107	.437	.875	.719	.187	.344	#6 Truss
10-9108	.531	1.062	.875	.297	.406	#8 Truss
10-9109	.625	1.250	1.032	.312	.469	#10 Truss
10-9110	.250	.687	.594	.125	.344	#6 Truss
10-9111	.312	.875	.750	.125	.406	#8 Truss
10-9112	.437	1.062	.937	.203	.469	#10 Truss
10-9113	.500	1.312	1.125	.312	.469	#10 Truss
10-9114	.562	1.625	1.437	.312	.469	#10 Truss



Square Feet

Part #	A	B	C	D	E	F Lug Dia.	G Mach. Screw
10-9200	.344	.875	.797	.187	.344	.149	#6 Truss
10-9201	.390	1.000	.906	.187	.344	.149	#6 Truss
10-9202	.469	1.187	1.078	.297	.422	.177	#8 Truss
10-9203	.531	1.375	1.219	.312	.484	.201	#10 Truss
10-9204	.594	1.500	1.344	.312	.484	.201	#10 Truss



Rectangular Feet

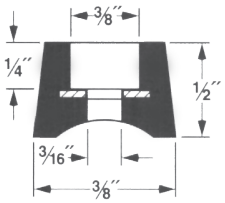
Part #	A	B	C	D	E	F	G	H Mach. Screw
10-9300	.344	.875	1.750	1.656	.187	.344	.875	#6 Truss
10-9301	.390	1.000	2.000	1.906	.187	.344	1.000	#6 Truss
10-9302	.469	1.187	2.375	2.250	.297	.421	1.187	#8 Truss
10-9303	.531	1.375	2.750	2.594	.316	.484	1.375	#10 Truss
10-9304	.594	1.500	3.000	2.844	.316	.484	1.500	#10 Truss

RECESS BUMPERS

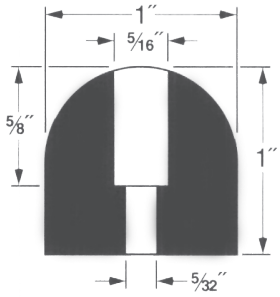
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

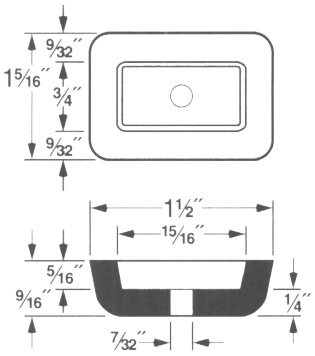
10-1000-W



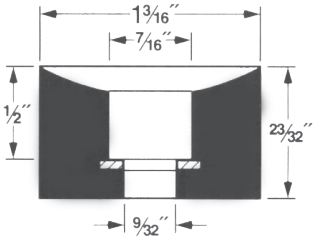
10-1001
10-1001-W



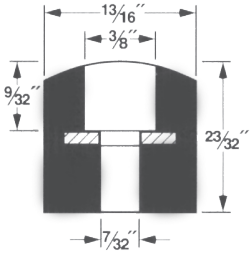
10-1002



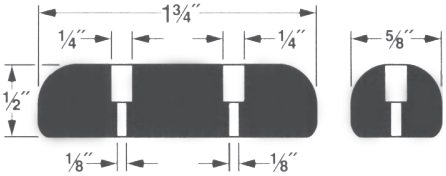
10-1003-W



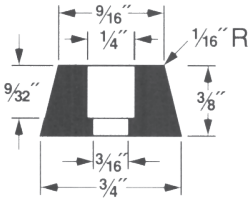
10-1004-W



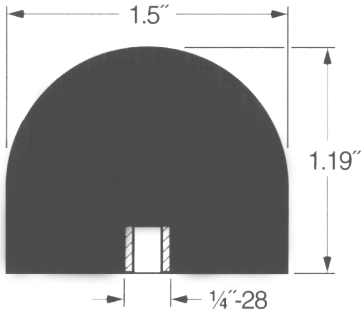
10-1005
10-1005-W



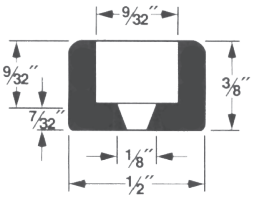
10-5754R

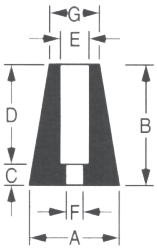


10-1089R



10-1006
VINYL



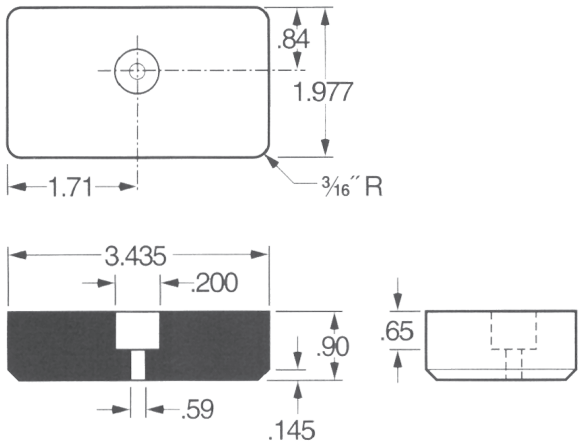


Vinyl Recessed Bumpers

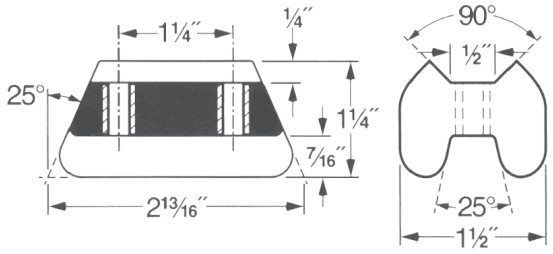
Part #	A	B	C	D	E	F	G
10-1007	1	1 ½	¾	¾	7/16	⅛	¾
10-1008	1	2	¾	1 ¼	7/16	⅛	¾
10-1009	1	2 ⅝	¾	1 ⅞	7/16	⅛	¾

ILLUSTRATIONS BELOW NOT TO SCALE

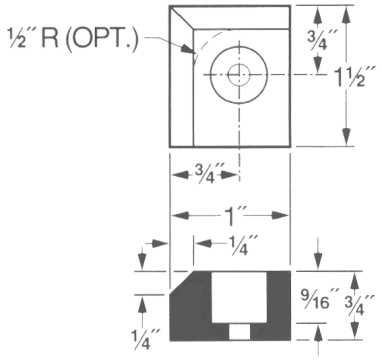
10-5070R



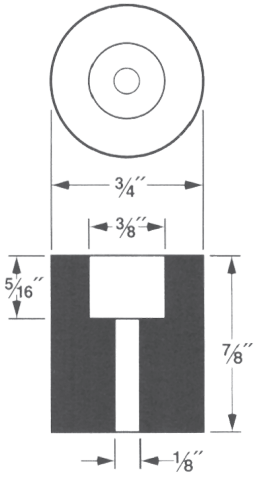
10-2093R



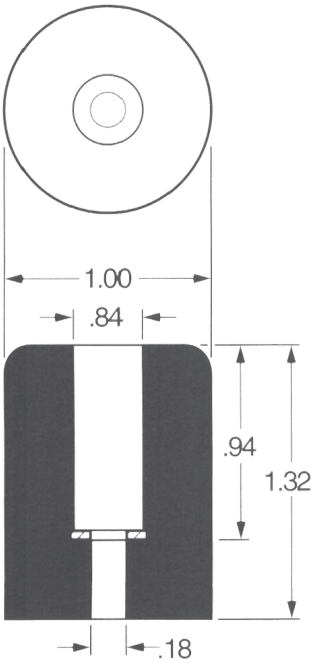
10-4416R



10-1520R

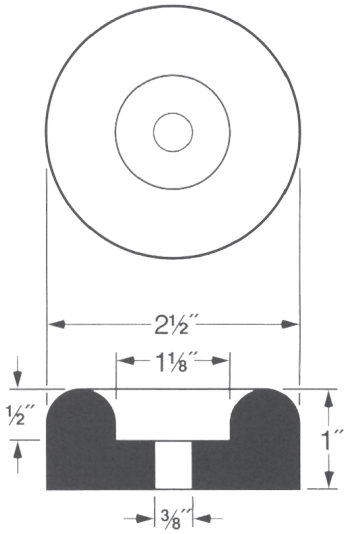


10-2762R



10-613R

Available in white, gray, black, blue, red, & yellow

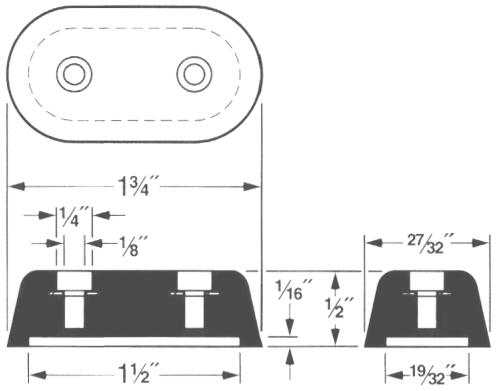


RECESS BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

10-1010



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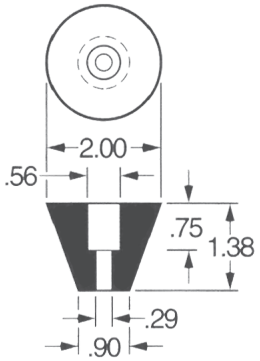

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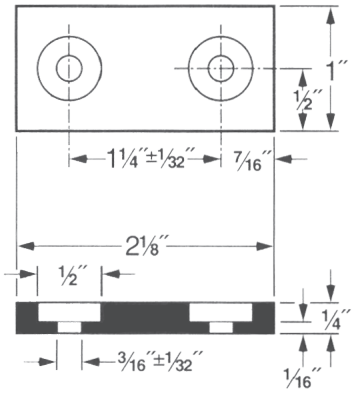

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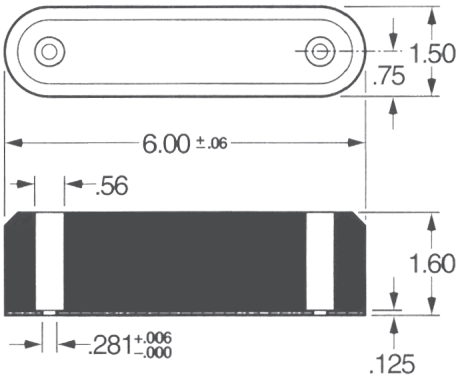

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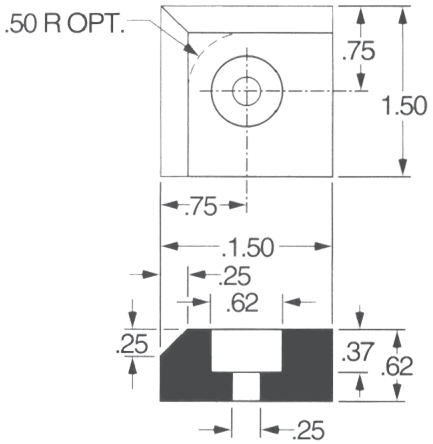

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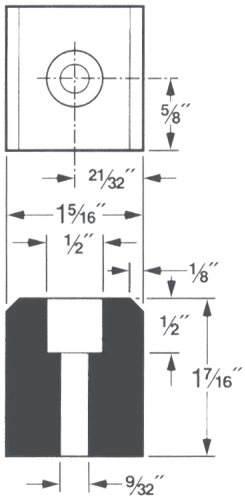

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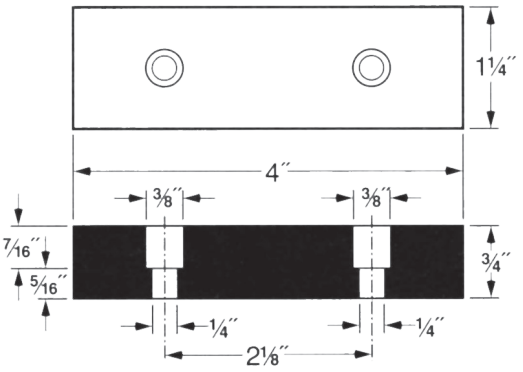

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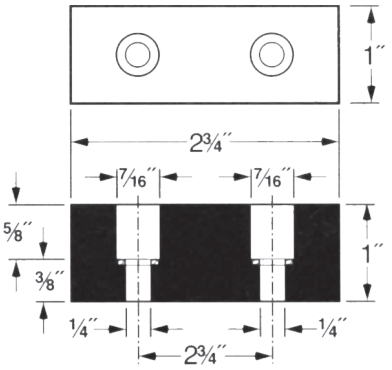

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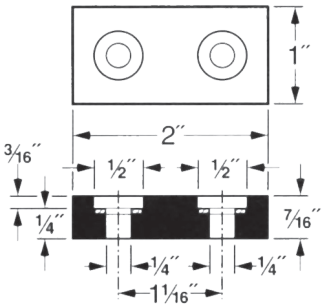

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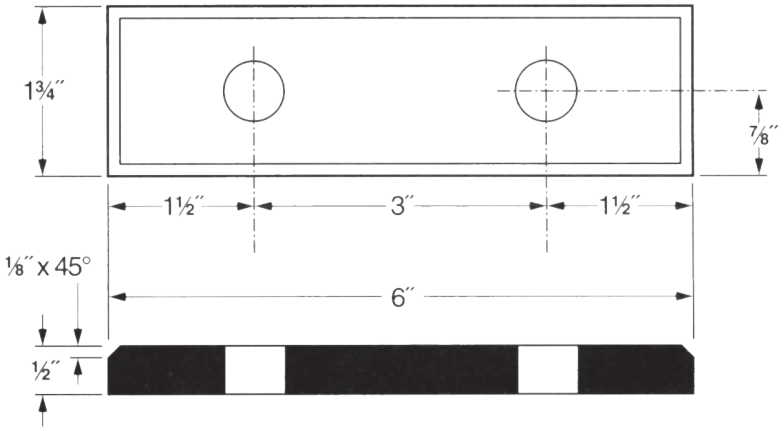
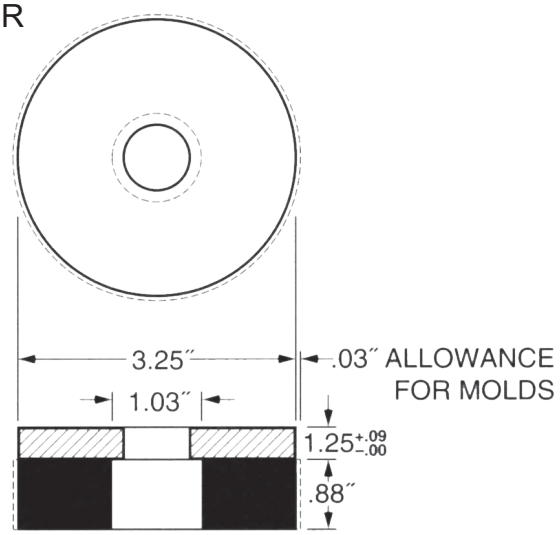


10-5308R



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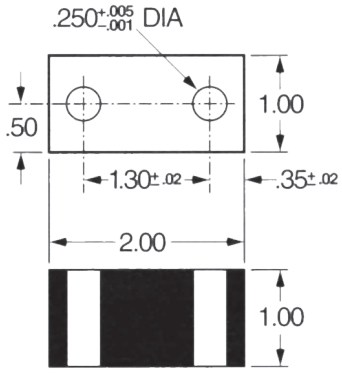


Longwood can custom-mold products to your specifications!

RECESS BUMPERS

LONGWOOD

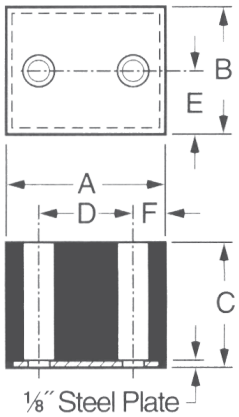
ILLUSTRATIONS BELOW NOT TO SCALE

You can order bumpers in the sizes shown below. They are 80 durometer, available bonded to ⅛″ steel plate or neoprene only. Mounting holes are drilled and counterbored or tapped for mounting.

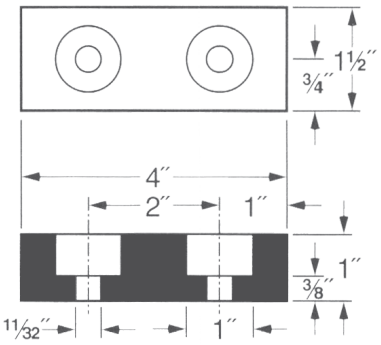
1300 Series Rectangular and Square Bumpers

Neoprene Part #	Urethane Part #	A	B	C	D	E	F	G	# of Holes
10-1300N	10-1300U	1 ¾	1	¾	1	½	⅜	¼	2
*10-1301N	10-1301U	1 ¾	1	¾	1	½	⅜	¼	2
10-1302N	10-1302U	2 ½	2	2	1 ½	1	½	5⁄16	2
10-1303N	10-1303U	2 ½	2	2	1 ½				
10-1304N	10-1304U	2 ½	⅝	½	1 ½	5⁄16	½	¼	2
10-1305N	10-1305U	¾	¾	⅝		⅜	⅜	¼	1

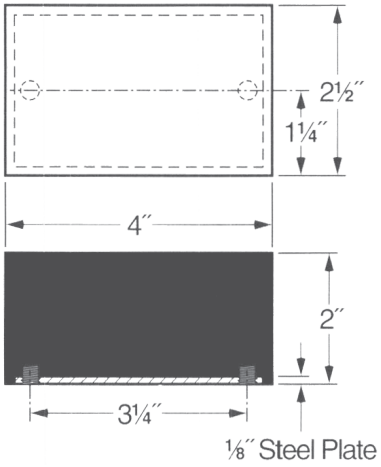
Neoprene 80 Durometer
Urethane 80 Durometer
*35 Durometer



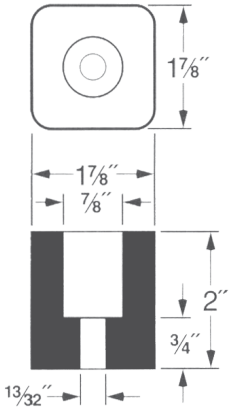
10-1306N
60 Durometer Neoprene



10-1307N
80 Durometer Neoprene



10-1308N
80 Durometer Neoprene

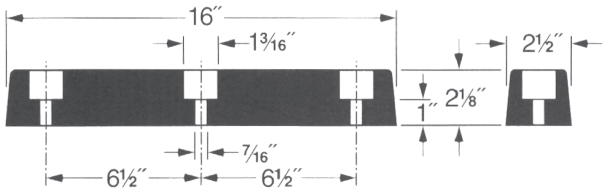


Also Available!
CUSTOM-CUT BUMPERS

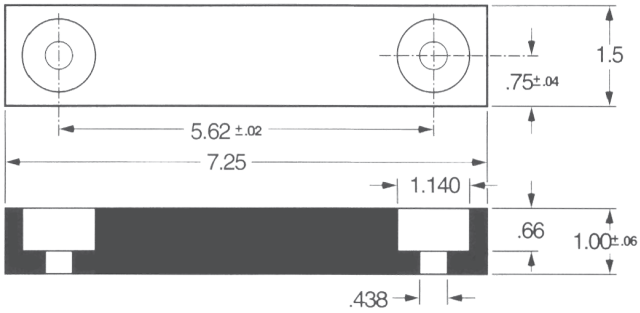
Longwood can cut bumpers in neoprene or urethane with an aluminum backer. Holes can be drilled for a custom bumper to meet your specifications.

ILLUSTRATIONS BELOW NOT TO SCALE

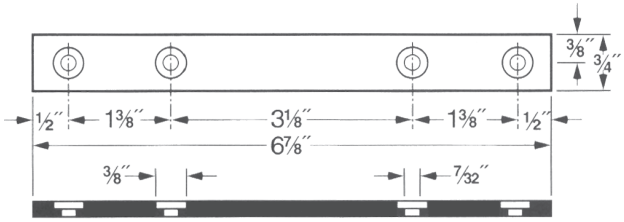
10-1041M



10-1286R

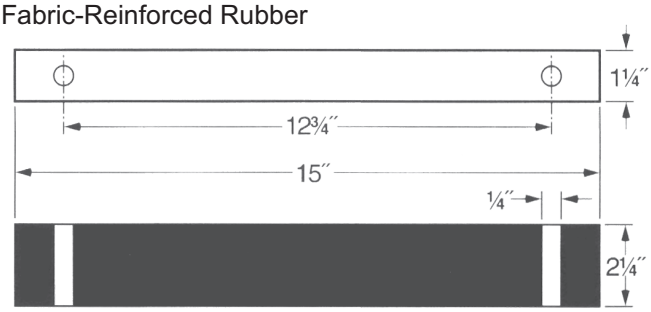


10-296R

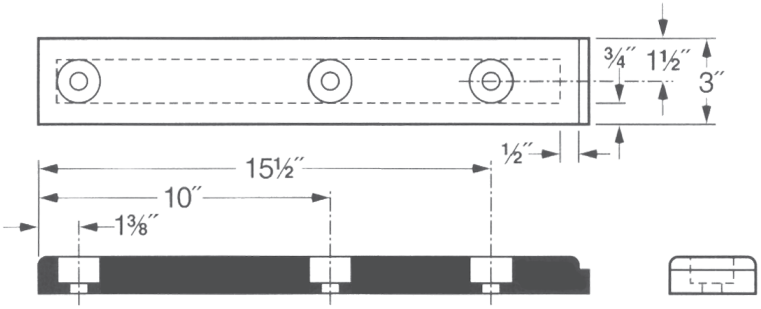


10-11M

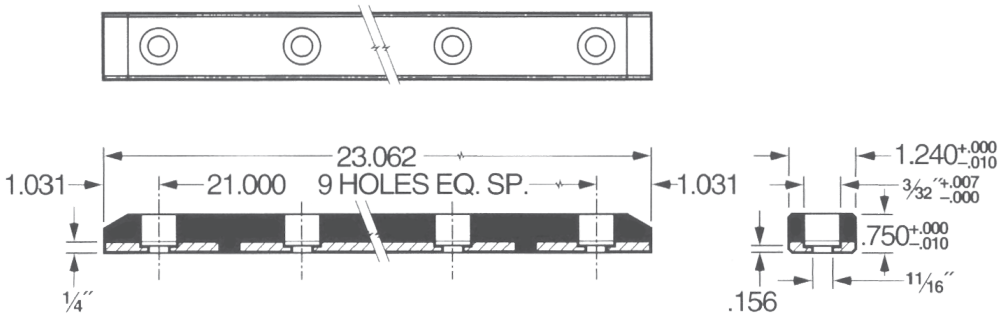
Fabric-Reinforced Rubber



10-522R



10-653R



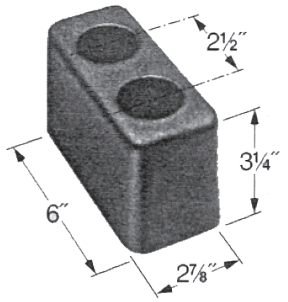
TRAILER BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

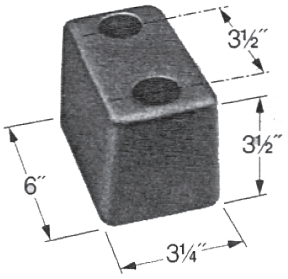
10-1044M

Fabric-Reinforced Rubber



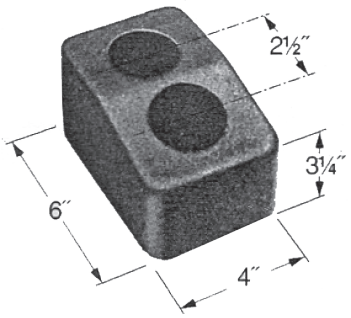
10-20

Rubber



10-1043M

Fabric-Reinforced Rubber



Part numbers ending with "M" are molded out of masticated rubber (cord reinforced).

1-800-829-7231 phone

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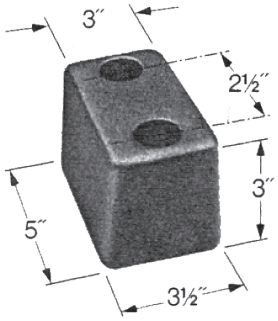
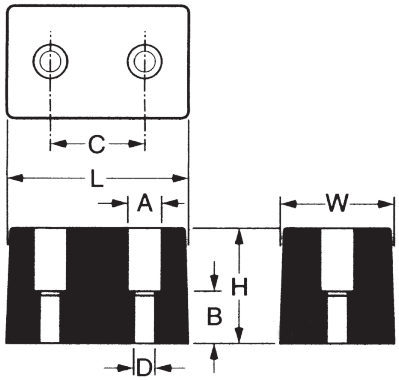
LONGWOOD

10-1046M

Fabric-Reinforced Rubber





Dock Bumpers (Solid Rubber - No Fabric)

Part #	A	B	C	D	L	W	H
10-27	1 3/16	1 3/4	3 1/2	11/16	5 3/4	3 3/4	4 1/2
10-44	1 3/16	1	2 5/8	1/2	6	2 3/8	3 1/4
10-45	1 7/16	7/8	3 1/2	5/8	6	2 1/2	3
10-26	1 5/8	2	3	9/16	6	3	3 1/2
10-39	1 3/16	7/8	4 1/2	7/16	7 7/8	2 1/2	2

Part numbers 10-27 and 10-39 have a steel washer.

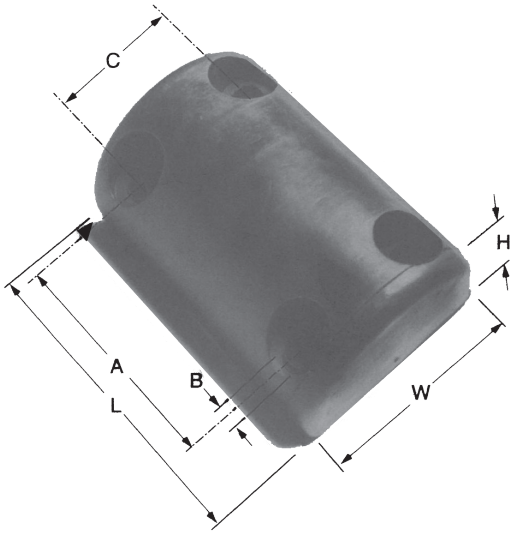
Part number 10-45 has a corner relieved as shown.

ILLUSTRATIONS BELOW NOT TO SCALE

Multi-Application Impact Protection

Made of molded rubber, these bumpers can be attached to the ends of crane travels, on tow trucks, or on heavy construction equipment. Other trailer and crane bumpers are available in extruded EPDM solid rubber for medium and heavy duty protection.

- **Tractor Trailers**
- **Tow Trucks**
- **Box Vans**
- **Cranes**
- **Garbage Trucks**
- **Beverage Trucks**
- **Wherever Impact Protection is Needed**



Beverage Truck Series						
Part #	**A**	**B**	**C**	**L**	**W**	**H**
10-1045M*	5 ½	¾	3 ¼	8	5 ¼	3 ⅝
10-1045	5 ½	¾	3 ¼	8	5 ¼	3 ⅝
10-67	5.5	.55	3	7.6	5.5	3.6
10-715	5 ⅜	9/16	3 ⅛	8	6	3
10-80M*	7 ¼	½	4	12	6	2 ¾

*Supplied in “M” fabric reinforced rubber.

Note: 10-1045 can be supplied with fabric reinforcement or solid rubber.

DOCK BUMPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Extra Large Bumpers

FEATURES
- Makes for a clean, neat, attractive dock area
- Molded in one piece of all new rubber compounds
- Won't warp, rust, rot or harden
- Compact size

BENEFITS
- Unique design and construction achieves high impact resistance and long life
- Immune to all weather conditions
- Maintenance-free
- Contains the correct amount of resiliency to absorb pressure and impact shock without damage to truck or dock

MATERIAL THICKNESS
- Manufactured from fiber-reinforced prime rubber containing nylon and polyester
- Comes in 8 models varying in thickness from 3″ to 6″
- All Bumpers have an impact recovery (ASTM 1170) of 95% with a durometer reading of 80±5
- Tensile: 950– 1050 PSI
- All models have pre-drilled, countersunk mounting holes for easy installation, and are drilled to accept ¾″ anchor bolts

INSTALLATION
- Installation is easy—¾″ anchor bolts are mounted through pre-drilled holes into dock

USES/APPLICATIONS
- Perfect protection for any high-traffic truck docks
- In-plant wall protection from forklifts and other material handling vehicles

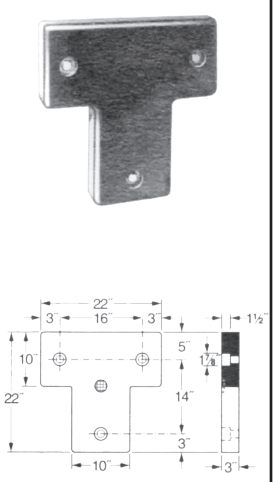
SPECIFICATIONS
- Bumper to have a durometer reading of 80±5.0; tensile strength of 950– 1050 PSI; and an impact recover (ASTM 1170) of 95%
- Molded in one piece of all new nylon and new polyester-reinforced rubber

T	"T" shape
L	"L" shape
R	Rectangular

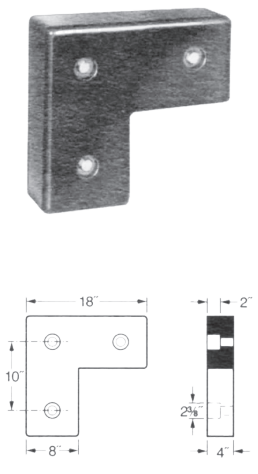
Dock Bumpers

Part #	Size	Bolt Size	Lbs.
10-T2000	3 x 22 x 22	¾ x 6	33
10-L2000	4 x 18 x 18	¾ x 6 or 8	29
10-R2000	4 x 12 x 24	¾ x 6 or 8	36
10-R2001	3 x 12 x 24	¾ x 6 or 8	28
10-R2002	6 x 12 x 24	¾ x 6 or 8	55
10-R2003	4 x 12 x 13	¾ x 6	22
10-R2004	4 x 10 x 18	¾ x 6 or 8	25
10-R2005	4 x 10 x 30	¾ x 6 or 8	45

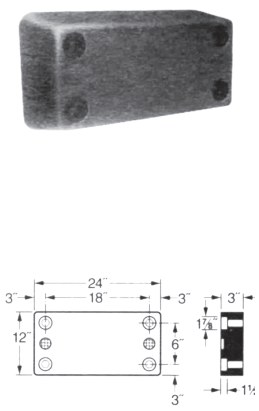
10-T2000



10-L2000



10-R2000



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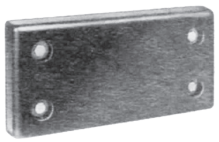

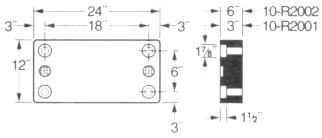

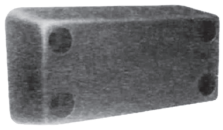

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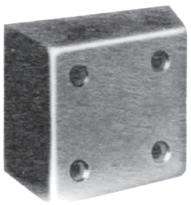

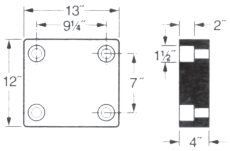

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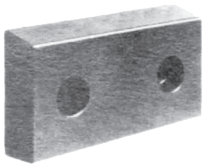
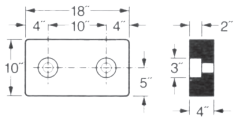
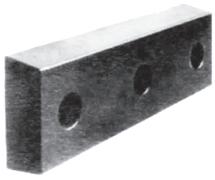
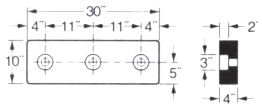




10-R2005



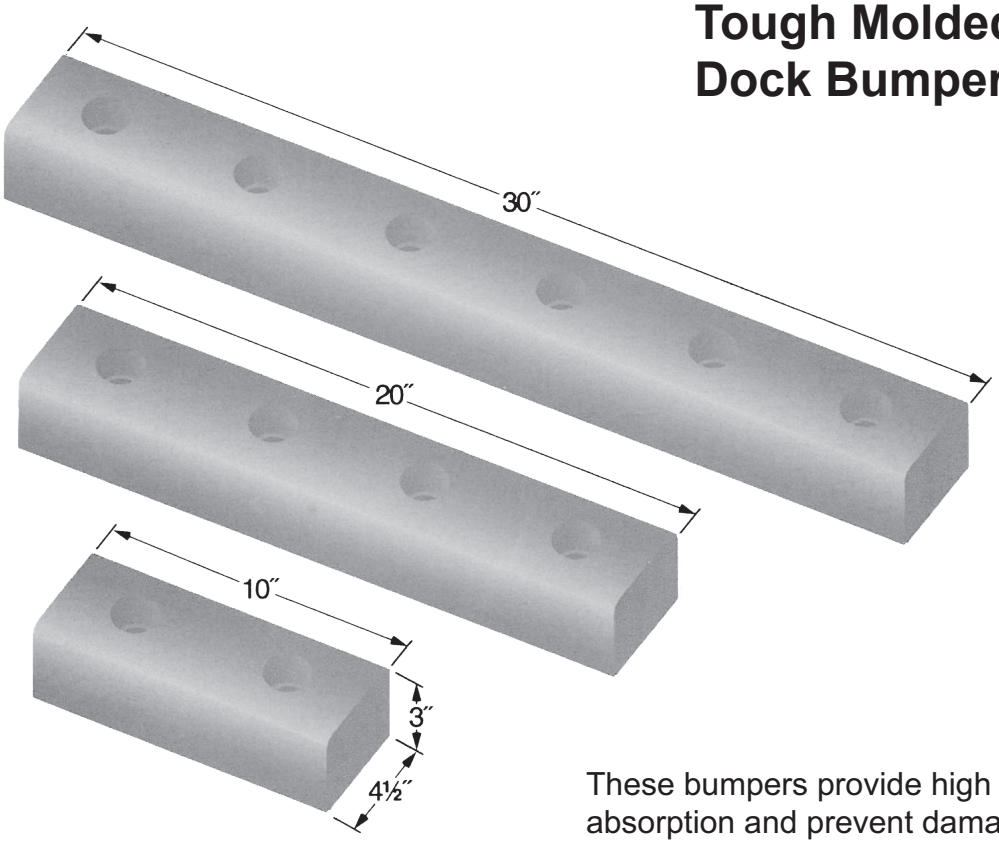


LONGWOOD

1-800-829-7231

ILLUSTRATIONS BELOW NOT TO SCALE

Tough Molded Dock Bumpers



These bumpers provide high shock absorption and prevent damage to docks and vehicles. Electro-galvanized inserts resist rust.

ECOA Rubber Dock Bumpers			
Part #	**Length**	**Number / Carton**	**Weight / Carton**
10-DBE-10	10”	4	29 lbs.
10-DBE-20	20”	2	30 lbs.
10-DBE-30	30”	2	46 lbs.

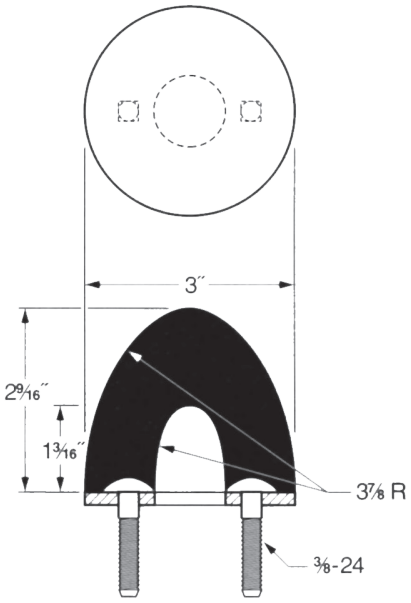
Also see EXTRUSIONS for EXTRUDED BUMPERS

BUMPER MOUNTS

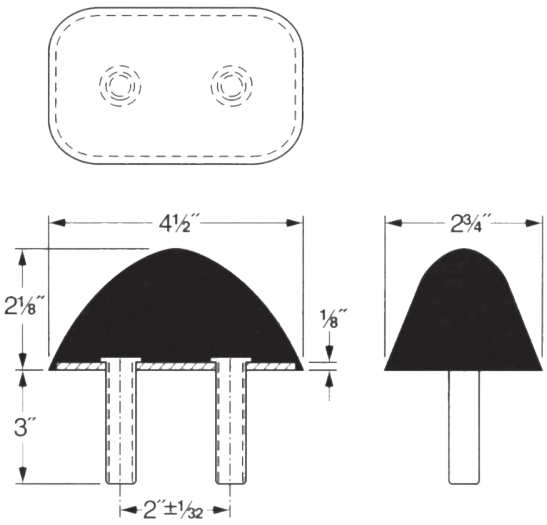
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

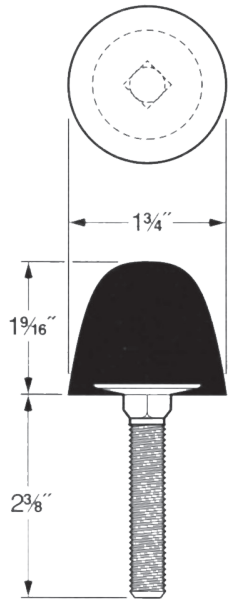
10-467R



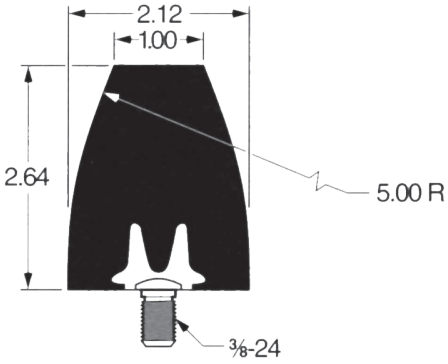
10-6663R



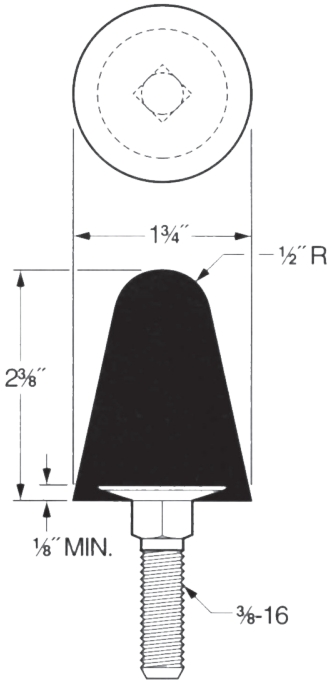
10-221R



10-2638R



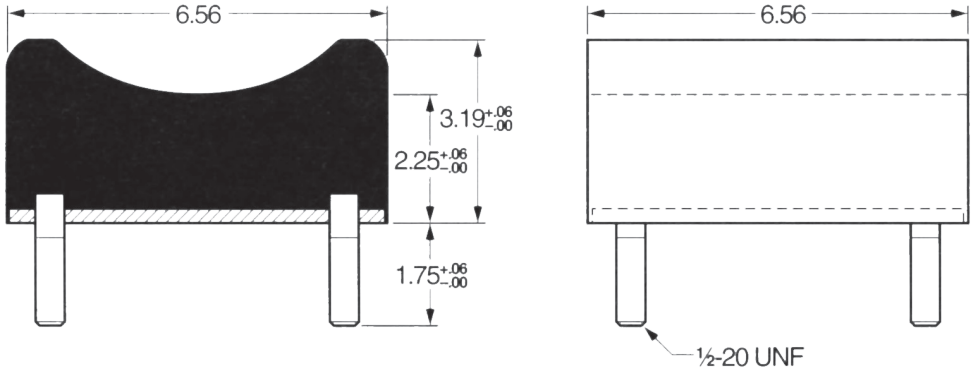
10-2439R



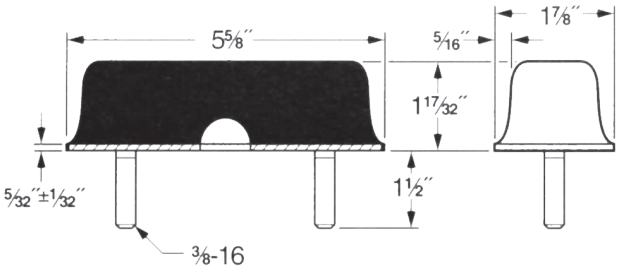
Longwood is an industry leader in rubber-to-metal bonding!

ILLUSTRATIONS BELOW NOT TO SCALE

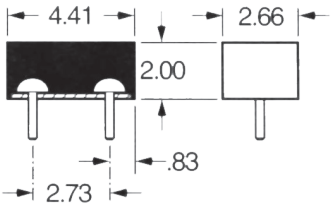
10-3603R



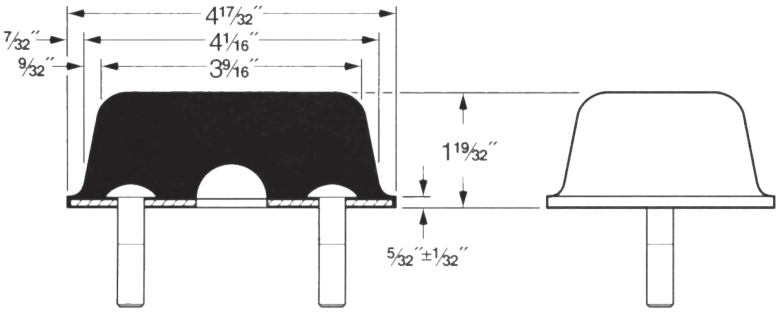
10-876R



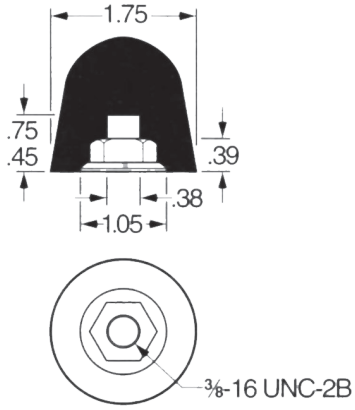
10-5673R



10-1865R



10-2928R

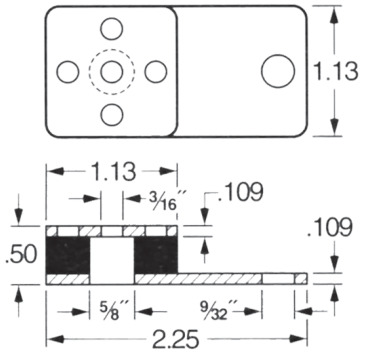


BUMPER MOUNTS

LONGWOOD

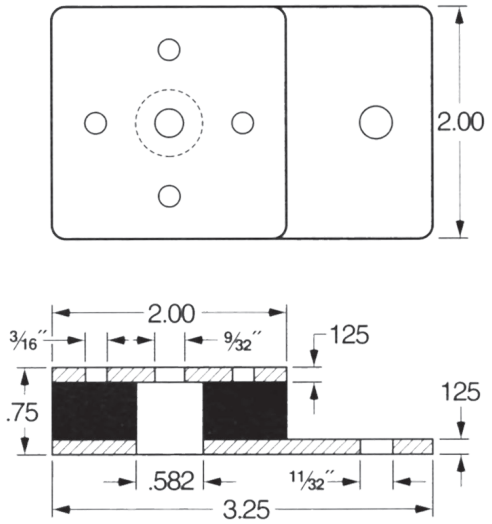
ILLUSTRATIONS BELOW NOT TO SCALE

10-6691RS
Small Feet



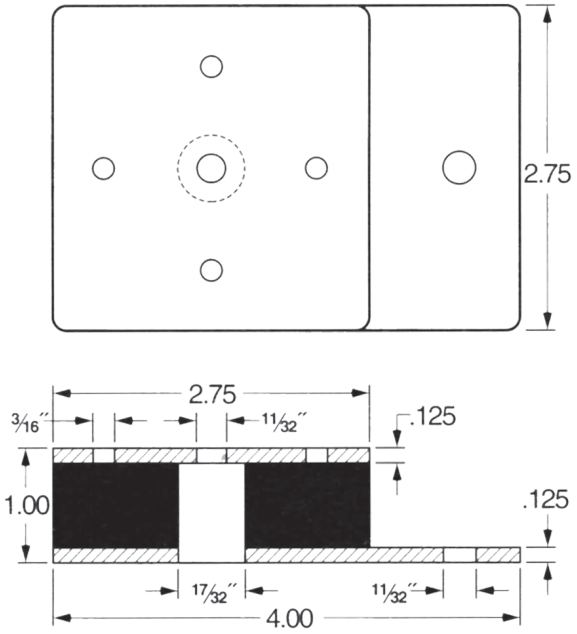
Application: Mounting vibrating equipment

10-6691RM
Medium Feet



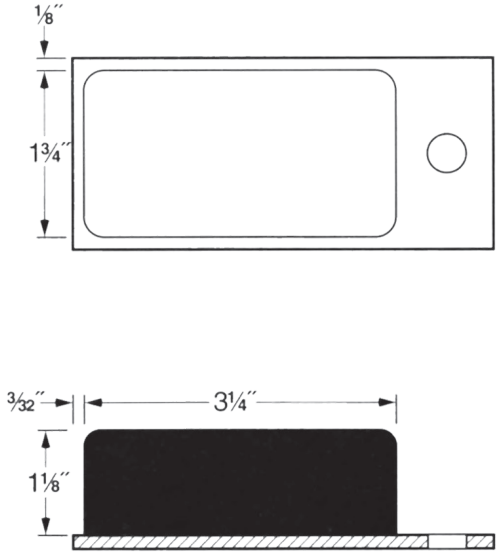
Application: Mounting vibrating equipment

10-6691RL
Large Feet



Application: Mounting vibrating equipment

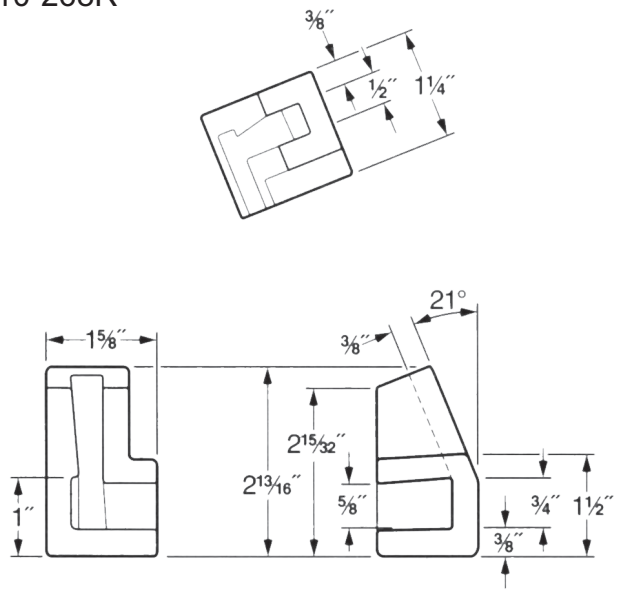
10-6009R
Large Feet



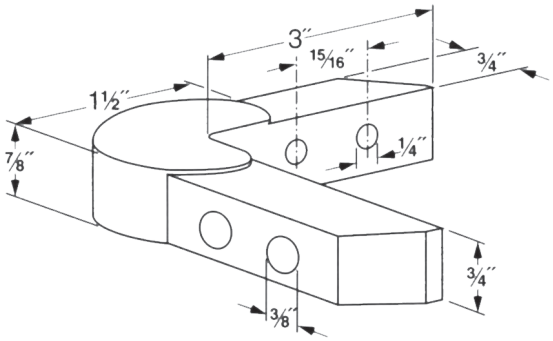
1-800-829-7231

ILLUSTRATIONS BELOW NOT TO SCALE

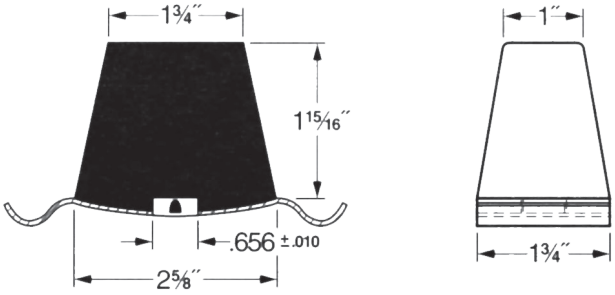
10-268R



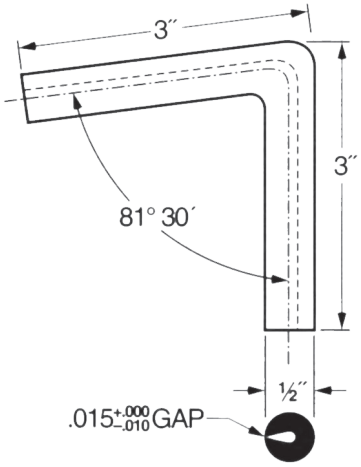
10-6000



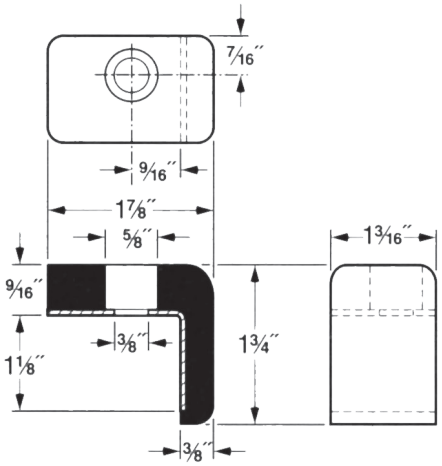
10-2450R



10-1448R



10-5700R

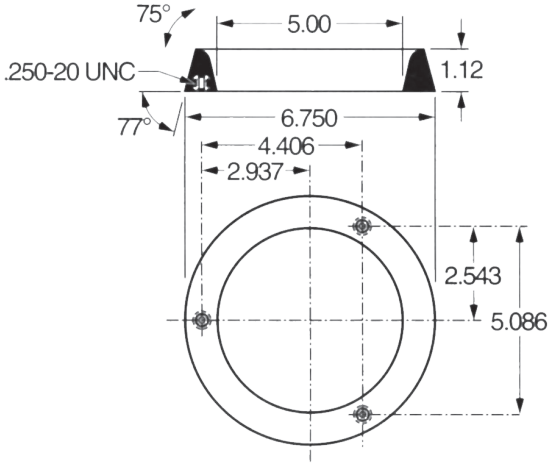


MISCELLANEOUS BUMPERS

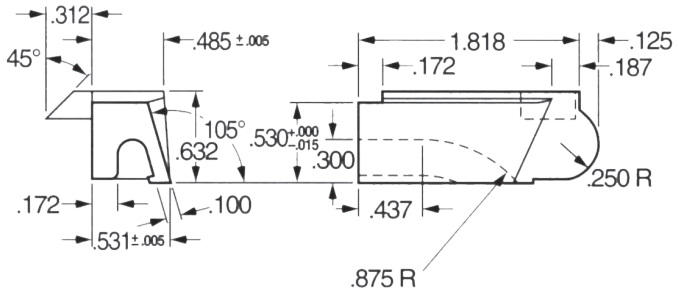
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

10-5403R

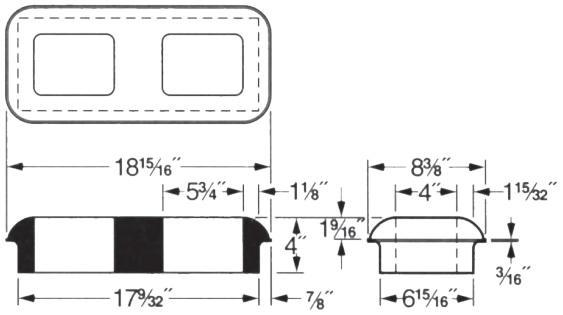


10-3453R

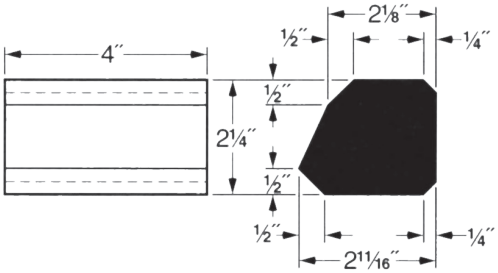


10-2184R

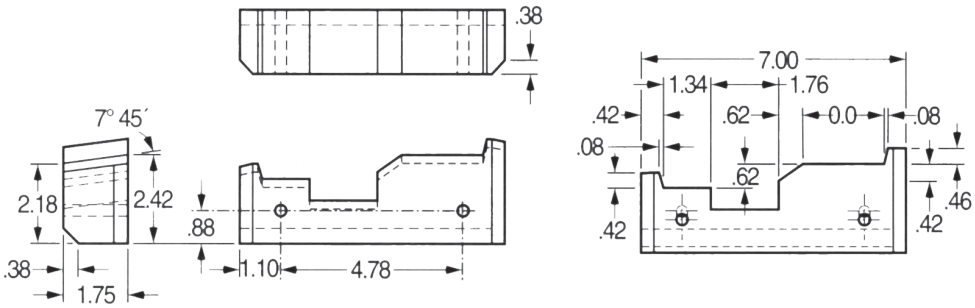
Large Bumper



10-2074R

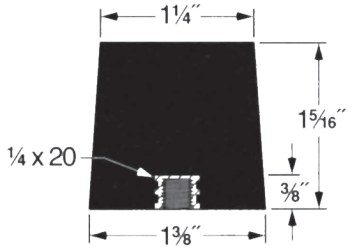


10-6045R

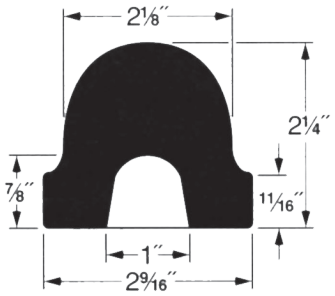


ILLUSTRATIONS BELOW NOT TO SCALE

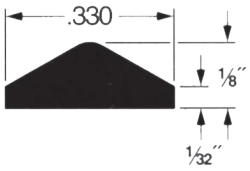
10-5524



10-5684R

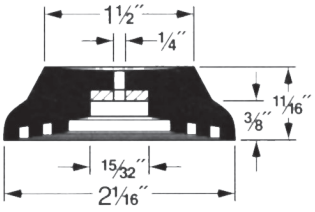


10-1477R

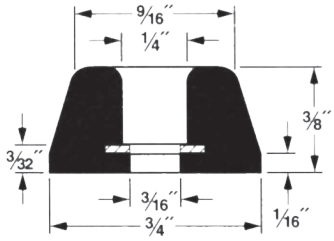


10-5880R

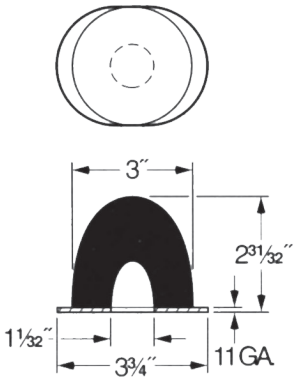
10-16



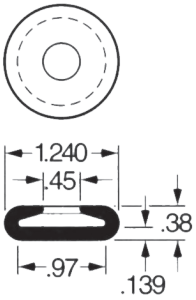
10-6443R



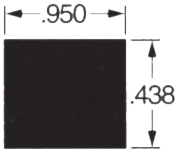
10-6835R



10-5109R



10-1620R



LAMINATED BUMPERS

LONGWOOD

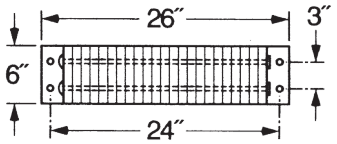
ILLUSTRATIONS BELOW NOT TO SCALE

Longwood laminated dock bumpers provide the maximum protection against heavy-duty truck and vehicle damage. Designed to withstand impact force, these bumpers are ideal for high-traffic commercial loading docks.

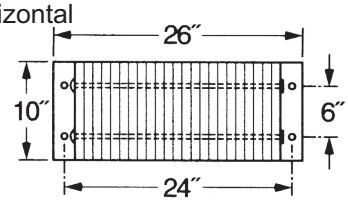
Laminated bumpers are constructed for unique “two-way” protection—tough rubberized fabric truck tire pads are assembled on a heavy-gauge steel frame. Positive anchoring through heavy ¼″ thick steel end plates provide stability and shape retention.

Various thicknesses are available from 4 ¼″ to 12″ in both vertical and horizontal styles. With many options for installing, laminated bumpers offer a wide range of protection to suit any dock requirement. They are long-wearing and provide many years of protection.

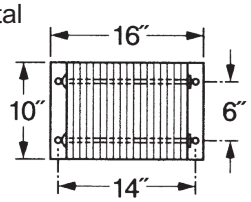
10-A
Horizontal



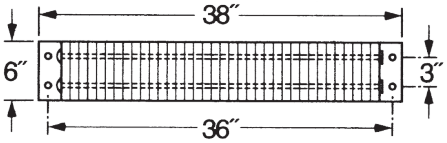
10-B
Horizontal



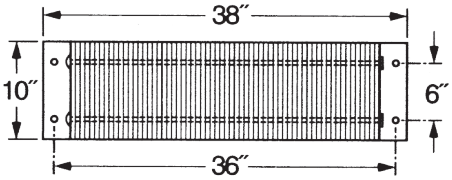
10-C
Horizontal



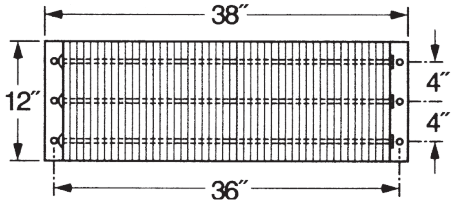
10-D
Horizontal



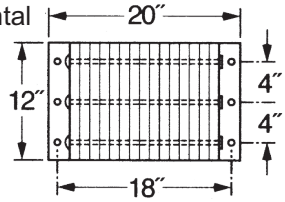
10-E
Horizontal



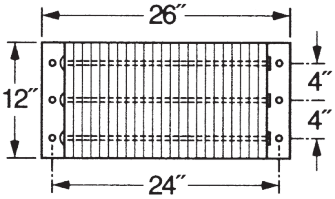
10-F
Horizontal



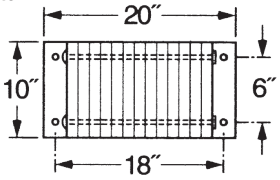
10-G
Horizontal



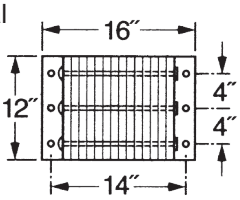
10-H
Horizontal



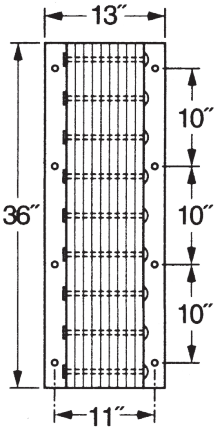
10-I
Horizontal



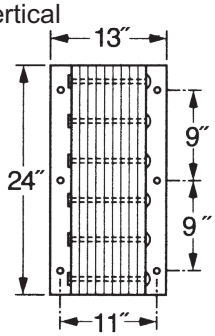
10-J
Horizontal



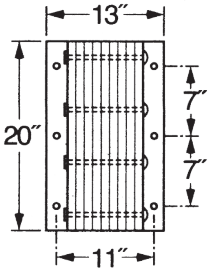
10-K
Vertical



10-L
Vertical



10-M
Vertical



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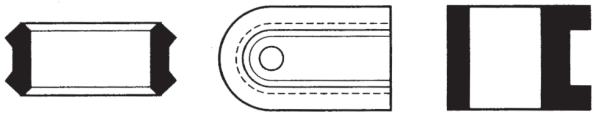
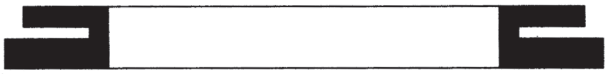
GROMMETS
11

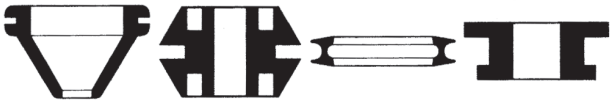
Grommets Pg. 34

Vinyl Grommets Pg. 38

Square Grommets Pg. 39

Horse Shoe Grommets  Pg. 40

Large Grommets  Pg. 41

Miscellaneous Grommets  Pg. 42

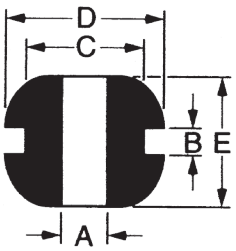
Military Grommets MS35489
AN-931 (Army- Navy) Pg. 46

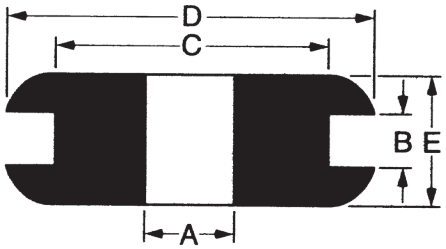
GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Grommets





Grommets - By "A" Dimension

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E
11-100	1/16	1/16	3/16	9/32	3/16
11-101	7/64	3/64	1/2	11/16	9/32
11-102	7/64	1/16	13/64	11/32	3/16
11-103	1/8	1/32	3/16	1/4	3/32
11-104	1/8	1/16	1/4	11/32	3/16
11-105	1/8	1/16	1/4	11/32	3/16
11-106	1/8	1/16	7/16	5/8	3/16
11-107	1/8	3/32	3/8	1/2	3/16
11-108	1/8	3/32	3/8	1/2	5/16
11-109	5/32	1/16	1/4	3/8	3/16
11-110	5/32	1/16	9/32	15/32	19/64
11-111	5/32	3/32	1/4	7/16	3/8
11-112	3/16	1/32	5/16	7/16	7/32
11-113	3/16	1/32	11/16	7/8	7/32
11-114	3/16	1/16	9/32	7/16	7/32
11-115	3/16	1/16	5/16	7/16	3/16
11-116	3/16	1/16	5/16	1/2	1/4
11-117	3/16	1/16	5/16	*	1/4
11-118	3/16	1/16	1/2	*	23/32
11-119	3/16	1/16	9/16	3/4	3/16
11-120	3/16	3/32	9/32	7/16	7/32
11-121	3/16	3/32	11/32	5/8	3/8
11-122	3/16	1/8	5/16	7/16	1/4
11-123	3/16	3/16	5/16	7/16	5/16
11-124	3/16	3/16	3/8	5/8	3/8
11-125	3/16	1/4	5/16	7/16	3/8
11-126	3/16	1/8	13/32	9/16	3/8
11-127	7/32	3/64	5/16	1/2	19/64
11-128	7/32	3/64	7/16	5/8	11/64
11-129	7/32	1/16	5/16	7/16	3/16
11-130	7/32	1/4	5/8	7/8	25/32
11-131	15/64	3/16	3/8	5/8	3/8
11-132	15/64	5/16	15/32	*	3/4
11-133	1/4	1/16	5/16	*	1/4
11-134	1/4	1/16	11/32	19/32	9/32
11-135	1/4	1/16	3/8+	1/2	7/32
11-136	1/4	1/16	7/16	5/8	3/16
11-137	1/4	1/16	9/16	3/4	11/64

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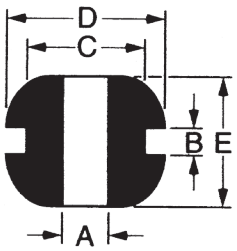
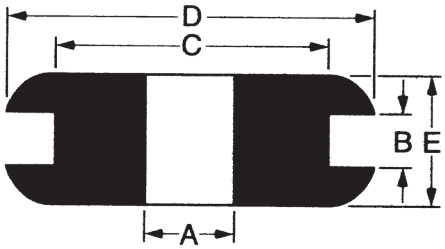
ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Grommets





Grommets - By "A" Dimension (continued)

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E
11-138	1/4	1/16	55/64	1 3/64	11/16
11-139	1/4	1/16	1	1 1/4	1/4
11-140	1/4	3/32	3/8+	1/2	1/4
11-141	1/4	3/32	7/16	5/8	3/8
11-142	1/4	3/32	15/32	49/64	19/64
11-143	1/4	1/8	3/8+	1/2	1/4
11-144	1/4	1/8	*	*	5/16
11-145	1/4	1/8	7/16	5/8	1/4
11-146	1/4	3/16	7/16	5/8	5/16
11-147	1/4	3/16	1/2	5/8	7/16
11-148	1/4	1/4	7/16	5/8	3/8
11-149	1/4	1/4	15/32	5/8	1/2
11-150	9/32	1/16	3/8	9/16	1/4
11-151	9/32	1/4	15/32	11/16	7/16
11-152	5/16	1/32	13/16	*	1/4
11-153	5/16	1/16	7/16	9/16	3/16
11-154	5/16	1/16	7/16	5/8	9/32
11-155	5/16	1/16	15/32	45/64	1/2
11-156	5/16	1/16	9/16	13/16	5/16
11-157	5/16	1/16	3/4	1	5/16
11-158	5/16	3/32	7/16	5/8	5/16
11-159	5/16	3/32	15/32	3/4	11/32
11-160	5/16	1/8	9/16	13/16	3/8
11-161	5/16	1/8	3/4	1	3/8
11-162	5/16	1/8	3/4	1	1/2
11-163	5/16	3/16	7/16	*	1/2
11-164	5/16	3/16	7/16	*	11/16
11-165	5/16	3/16	9/16	3/16	3/8
11-166	5/16	3/16	9/16	13/16	7/16
11-167	5/16	3/16	3/4	1	7/16
11-168	5/16	3/8	3/8	9/16	1/2
11-169	5/16	1/4	9/16	13/16	1/2
11-170	5/16	1/4	3/4	1	1/2
11-171	11/32	1/16	17/32	25/32	1/4
11-172	3/8	1/16	1/2	5/8	1/4
11-173	3/8	1/16	1/2	11/16	9/32
11-174	3/8	1/16	5/8	7/8	5/16
11-175	3/8	1/16	1	1 1/4	1/4

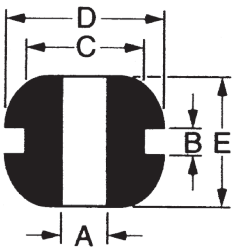
Longwood can custom-mold grommets

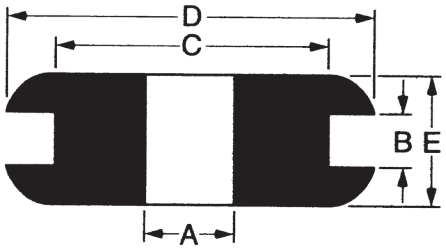
GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Grommets





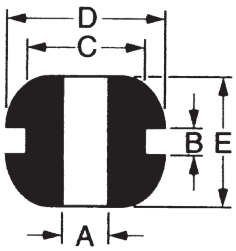
Grommets - By "A" Dimension (continued)

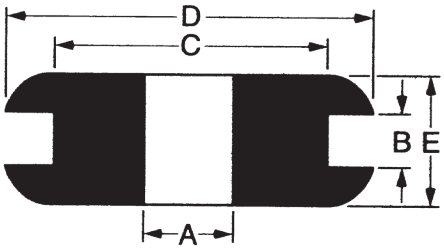
Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E
11-176	3/8	1/8	1/2	5/8	13/32
11-177	3/8	1/8	17/32	3/4	3/8
11-178	3/8	1/8	5/8	7/8	3/8
11-179	3/8	3/16	9/16	13/16	3/8
11-180	3/8	3/16	5/8	7/8	7/16
11-181	3/8	1/4	1/2	3/4	1/2
11-182	3/8	1/4	5/8	7/8	1/2
11-183	7/16	1/16	9/16	3/4	1/4
11-184	7/16	1/16	11/16	15/16	5/16
11-185	7/16	1/8	11/16	15/16	3/8
11-186	7/16	1/8	11/16	15/16	3/8
11-187	7/16	3/16	9/16	11/16	3/8
11-188	7/16	3/16	11/16	15/16	7/16
11-189	7/16	1/4	1/16	15/16	1/2
11-190	1/2	1/16	13/16	1 1/16	5/16
11-191	1/2	1/16	1	1 1/4	1/4
11-192	1/2	1/16	1 1/4	1 1/2	1/4
11-193	1/2	3/32	3/4	7/8	11/32
11-194	1/2	3/32	3/4	31/32	9/32
11-195	1/2	3/32	25/32	1	11/32
11-196	1/2	3/32	1 3/8	*	1
11-197	1/2	1/8	3/4	1	1/2
11-198	1/2	1/8	13/16	1 1/16	3/8
11-199	1/2	3/16	13/16	1 1/16	7/16
11-200	1/2	1/4	13/16	1 1/16	1/2
11-201	1/2	3/8	3/4	1	5/8
11-202	17/32	1/8	11/16	13/16	1/4
11-203	17/32	3/16	11/16	13/16	5/16
11-204	9/16	1/16	3/4	7/8	15/64
11-205	9/16	1/16	13/16	1 1/16	5/16
11-206	9/16	3/16	13/16	1 1/16	7/16
11-207	9/16	3/16	7/8	1 1/16	7/16
11-208	9/16	1/4	13/16	1 1/16	1/2
11-209	9/16	3/8	7/8	1 1/16	5/8
11-210	9/16	1	13/16	1 1/8	1 1/4
11-211	19/32	7/64	47/64	15/16	19/64
11-212	5/8	1/16	7/8	1 1/8	5/16
11-213	5/8	1/16	1 1/4	1 1/2	1/4

Grommets for commercial or military applications

ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Grommets





Grommets - By "A" Dimension (continued)

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E
11-214	5/8	3/32	1 3/8	*	1/4
11-215	5/8	1/8	7/8	1 1/8	3/8
11-216	5/8	3/16	7/8	1 1/8	7/16
11-217	5/8	1/4	7/8	1 1/8	1/2
11-218	5/8	5/16	*	*	11/16
11-219	5/8	5/16	29/32	1 1/8	5/8
11-220	5/8	5/8	7/8	1 1/16	7/8
11-221	41/64	7/64	57/64	1 1/16	23/64
11-222	11/16	1/16	13/16	*	15/64
11-223	11/16	1/16	1	1 5/16	3/8
11-224	11/16	1/8	1	1 5/16	7/16
11-225	11/16	3/16	1	1 5/16	1/2
11-226	11/16	1/4	1	1 5/16	9/16
11-227	3/4	1/16	15/16	1 1/8	1/4
11-228S	3/4	1/16	15/16	1 1/8	1/4
11-229W	3/4	1/16	15/16	1 1/8	1/4
11-230	3/4	1/16	1 1/16	1 3/8	3/8
11-231	3/4	1/16	1 1/4	1 5/8	1/4
11-232	3/4	1/16	1 7/16	1 13/16	3/8
11-233	3/4	1/8	1 1/16	1 3/8	7/16
11-234	3/4	3/16	1 1/16	1 3/8	1/2
11-235	3/4	1/4	1 1/16	1 3/8	9/16
11-236	3/4	1/4	1 1/4	1 5/8	7/16
11-237	3/16	9/16	15/16	1 1/4	7/8
11-238	7/8	1/16	1 3/16	*	9/32
11-239	7/8	1/16	1 1/4	1 5/8	7/16
11-240	7/8	1/16	1 5/8	2	7/16
11-241	7/8	5/64	1 3/16	1 3/8	15/32
11-242	7/8	1/8	1 1/4	1 5/8	1/2
11-243	7/8	9/64	1 3/16	1 3/8	15/32
11-244	7/8	3/16	1 1/4	1 5/8	9/16
11-245	7/8	3/16	1 15/64	1 9/16	3/4
11-246	7/8	1/4	1 1/4	1 5/8	5/8
11-247	1	1/16	1 7/8	2 1/4	7/16
11-248	1	1/16	1 3/8	1 3/4	7/16
11-249	1	1/8	1 3/8	1 3/4	1/2
11-250	1	3/16	1 3/8	1 3/4	9/16
11-251	1	1/4	1 1/4	1 1/2	1/2

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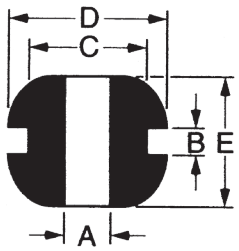
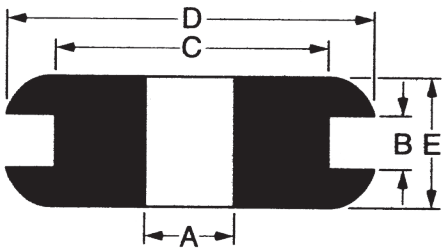
GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Grommets

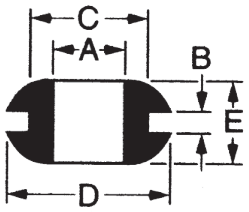




Grommets - By "A" Dimension (continued)

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E
11-252	1	¼	1 ⅜	1 ¾	⅝
11-253	1 1/64	⅛	1 17/64	1 33/64	⅜
11-254	1 ⅛	1/16	1 ½	1 ⅞	⅜
11-255	1 ⅛	3/32	1 ⅜	*	¼
11-256	1 5/16	1/16	1 ⅝	2	⅜
11-257	1 5/16	⅛	1 ⅝	2	7/16
11-258	1 ½	1/16	1 ¾	2 ⅛	7/16
11-259	1 ½	⅛	1 ¾	2 ⅛	½
11-260	1 ½	3/16	1 ¾	2 ⅛	9/16
11-261	1 ½	¼	1 ¾	2	½
11-262	1 ½	¼	1 ¾	2 ⅛	⅝
11-263	1 ⅝	1/16	1 11/16	1 ⅞	⅜
11-264	2	1/32	2 ½	3	9/32
11-265	2 ⅛	1/16	2 ½	2 ⅞	7/16
11-266	2 ⅛	⅛	2 ½	2 ⅞	7/16

Vinyl Grommets



Vinyl:

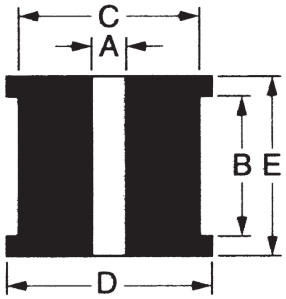
- Exceptional aging qualities
- High dielectric properties
- Oil Resistant
- Durometer hardness 60 shore "A"
- Cost less than rubber
- Custom colors available on special order, at special prices
- Will not stain most surfaces
- Excellent resistance to ozone and sunlight

Vinyl Grommets - By "C" Dimension

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E
11-9000	⅛	1/16	¼	11/32	3/16
11-9001	3/16	1/16	5/16	7/16	7/32
11-9002	¼	1/16	⅜	9/16	¼
11-9003	7/32	3/32	⅜	½	17/64
11-9004	5/16	1/16	7/16	⅝	¼
11-9005	¼	3/32	7/16	⅝	⅜
11-9006	⅜	1/16	½	⅝	¼
11-9007	½	1/16	⅝	13/16	9/32
11-9008	⅜	1/16	⅝	⅞	3/16
11-9009	25/64	⅛	21/32	27/32	⅜
11-9010	9/16	1/16	11/16	15/16	5/16
11-9011**	5/16	1/32	13/16	1 X 1 ¼	¼
11-9012	⅝	1/16	⅞	1 ⅛	9/32
11-9013	11/16	1/16	1	1 5/16	⅜
11-9014	1	⅛	1 ⅜	1 ¾	½

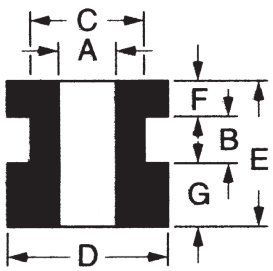
**Offset grommet

ILLUSTRATIONS BELOW NOT TO SCALE



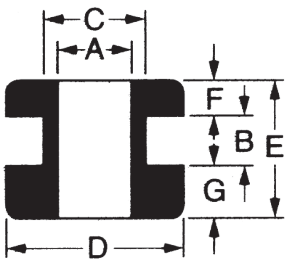
60 Duro SBR Grommets - Plain Bore Square Shoulders

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E	Shoulder Small Width F	Shoulder Large Width G
11-300	1/4	1/4	15/32	5/8	1/2	*	*
11-301	5/16	3/8	3/8	9/16	1/2	*	*
11-302	3/8	1/8	1/2	5/8	13/32	*	*
11-303	17/32	1/8	11/16	13/16	1/4	*	*
11-304	17/32	3/16	11/16	13/16	5/16	*	*
11-305	5/8	5/8	7/8	1 1/16	7/8	*	*
11-306	7/16	5/32	9/16	11/16	11/32	*	*



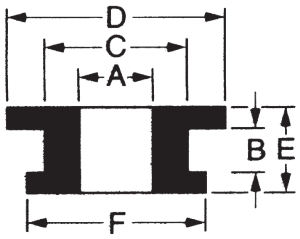
60 Duro SBR Grommets - Square Shoulders Unequal Width

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E	Shoulder Small Width F	Shoulder Large Width G
11-307	7/32	1/4	5/8	7/8	25/32	3/16	11/32
11-308	1/4	3/32	15/32	49/64	19/64	3/32	7/64
11-309	5/16	1/16	15/32	45/64	1/2	1/16	3/8
11-310	9/16	3/16	31/32	1 7/16	21/32	3/16	9/32



60 Duro SBR Grommets - Round Shoulders Unequal Width

Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E	Shoulder Small Width F	Shoulder Large Width G
11-311	5/32	1/16	9/32	15/32	9/64	7/64	1/8
11-312	1/4	1/16	11/32	19/32	9/32	3/32	1/8
11-313	1/4	1/16	9/16	3/4	11/64	3/64	1/16
11-314	1/4	3/32	7/16	5/8	3/8	3/32	3/16



60 Duro SBR Grommets - Unequal Shoulder Diameter

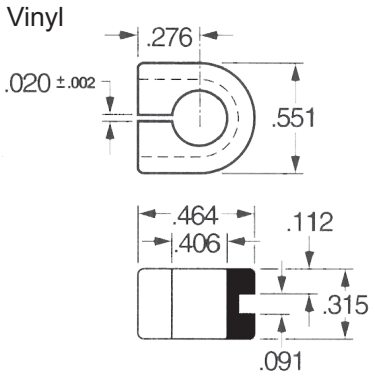
Part #	Bore Diameter A	Groove Width B	Groove Diameter C	Outside Diameter D	Overall Thickness E	Shoulder Small Diameter F
11-315	1/2	3/32	1 3/8	1 7/8	1/4	1 5/8
11-316	5/8	3/32	1 3/8	1 7/8	1/4	1 5/8
11-317	1 1/8	3/32	1 3/8	1 7/8	1/4	1 5/8

HORSE SHOE GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

11-9015
Vinyl



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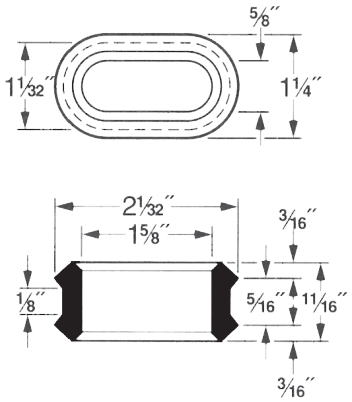
11-400



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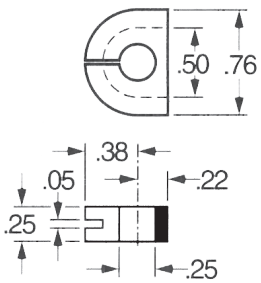

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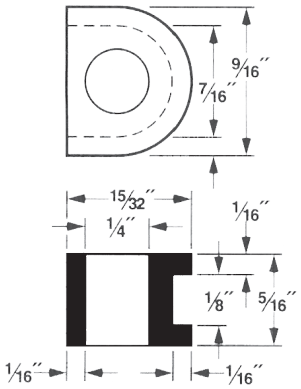
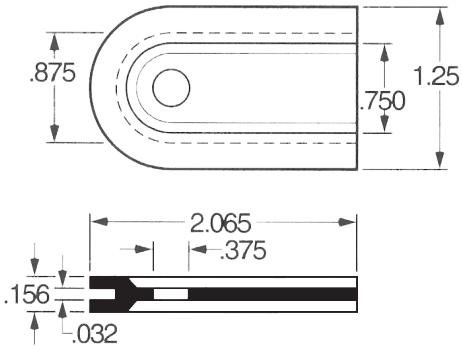
11-401



11-402



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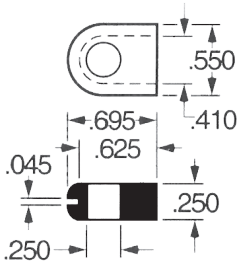


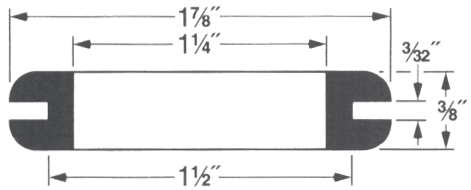
GROMMET APPLICATIONS

The primary use of a grommet is to facilitate wiring through a hole in metal or other rigid materials. The grommet snaps into a pre-determined hole, a wire or wire harness is passed through and is thus protected from the sharp edges of the panel.

Grommets are also used as non-slip feet on the bottom of equipment, protective dampers between two pieces of metal, non-critical seals, and many other uses.

ILLUSTRATIONS BELOW NOT TO SCALE

11-450



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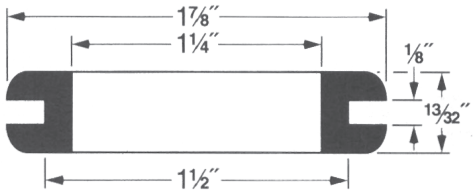

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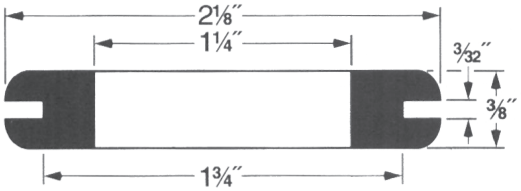

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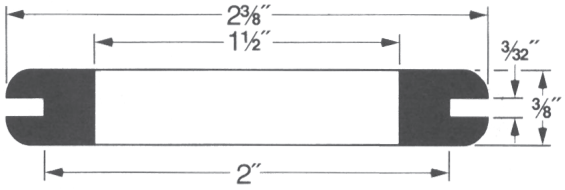

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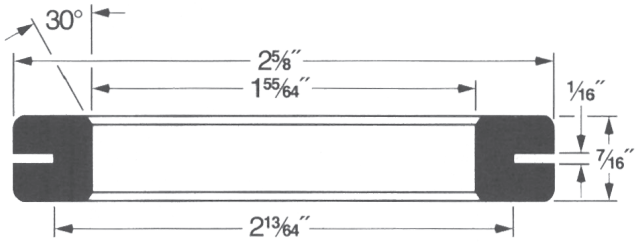

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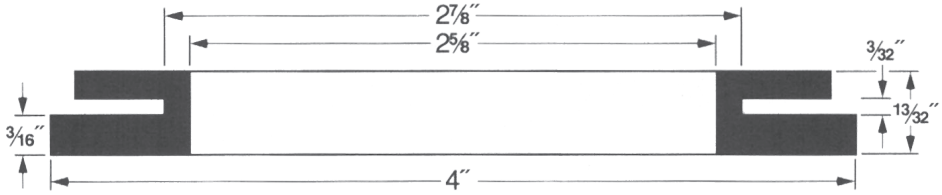
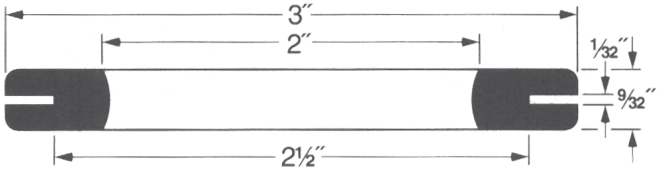


11-456
Chamfered Bore

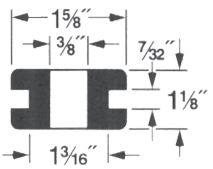


MISCELLANEOUS GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

11-5247R



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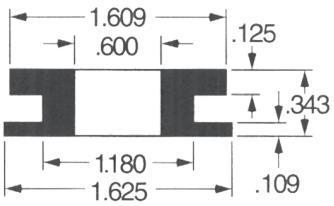

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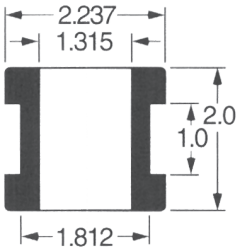

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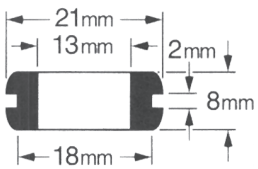

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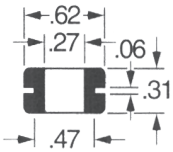

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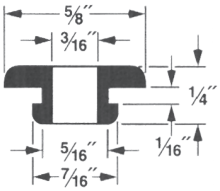

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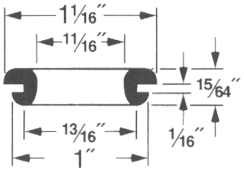

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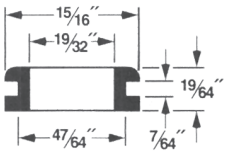

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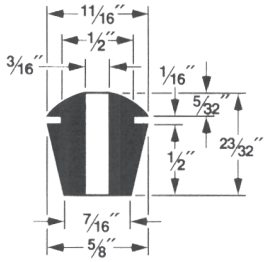

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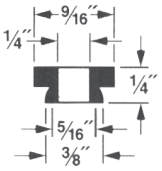

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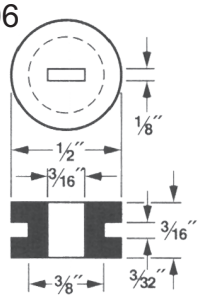

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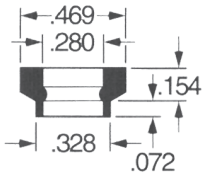

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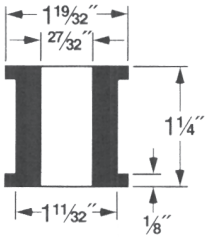

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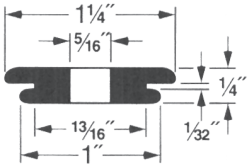

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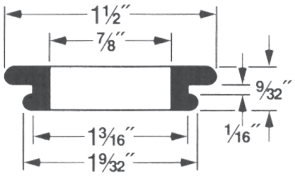

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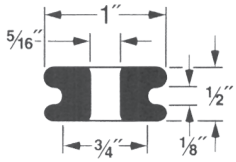

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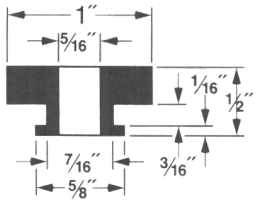

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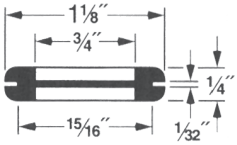

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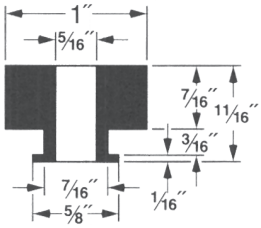

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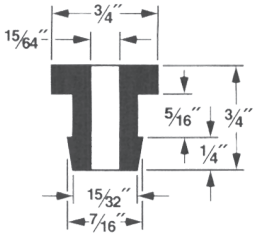

LONGWOOD MISCELLANEOUS GROMMETS

ILLUSTRATIONS BELOW NOT TO SCALE

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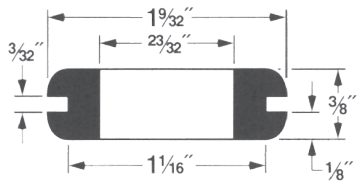

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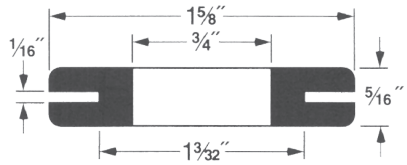

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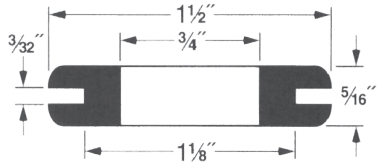

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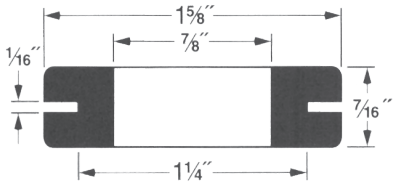

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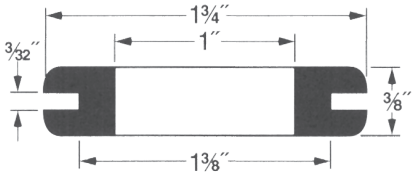

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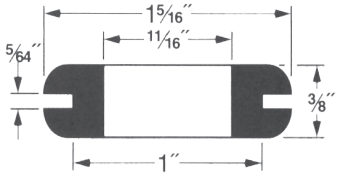

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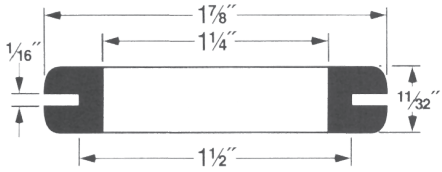

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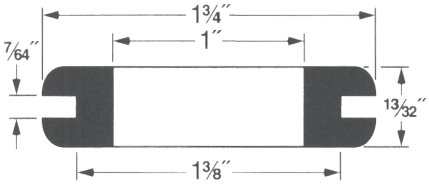

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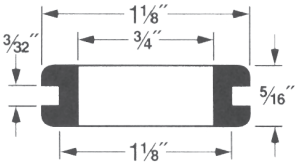

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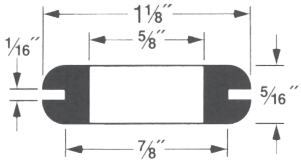

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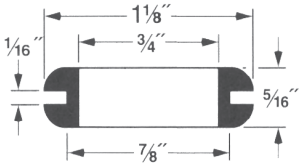

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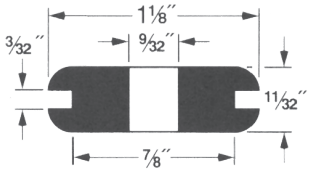

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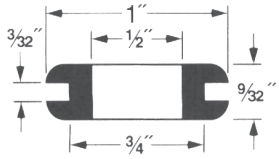

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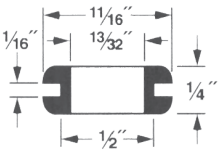

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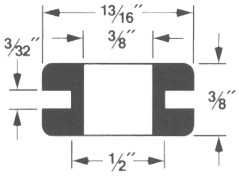

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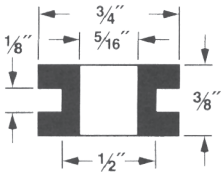


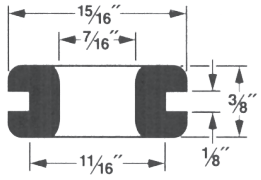
Longwood can custom-mold grommets to your specifications out of any material

MISCELLANEOUS GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

11-560



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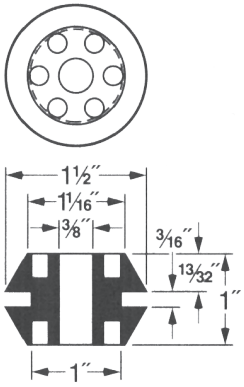
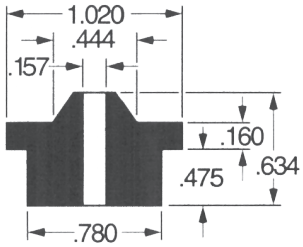


11-1776R



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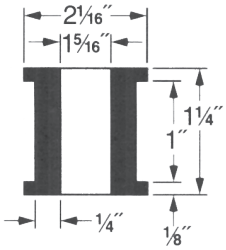

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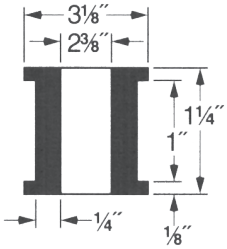

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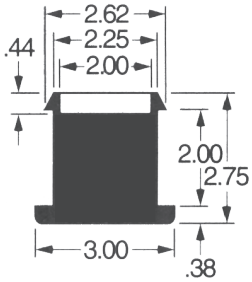

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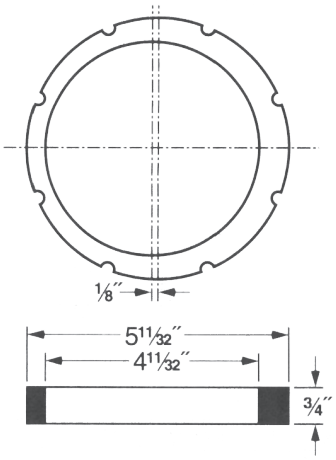

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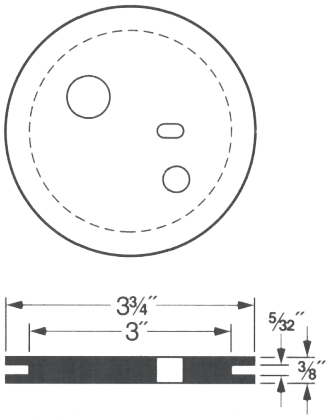
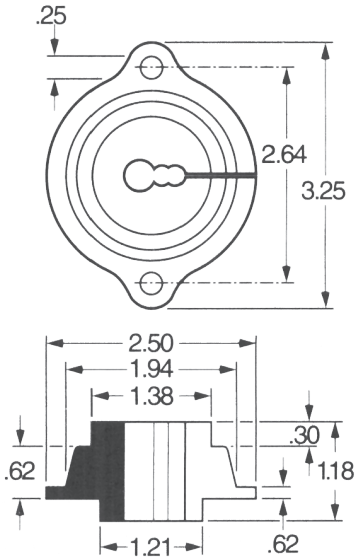


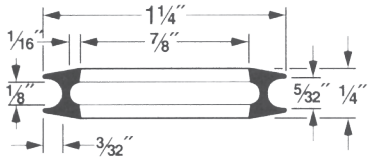
11-6191R



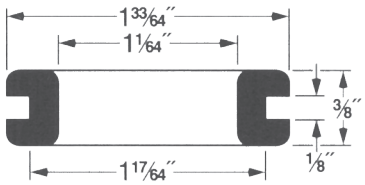
LONGWOOD MISCELLANEOUS GROMMETS

ILLUSTRATIONS BELOW NOT TO SCALE

11-5669R



11-570



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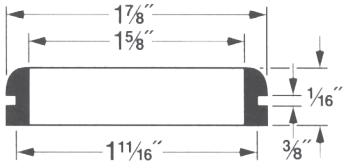
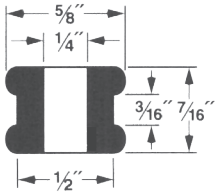


11-572



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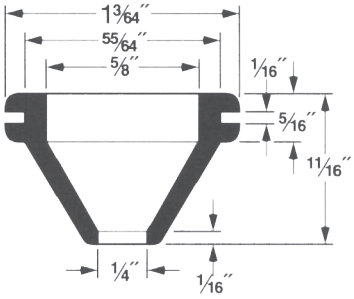

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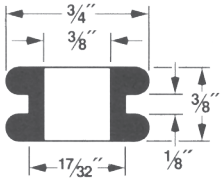
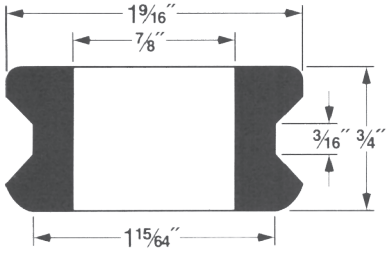


11-575



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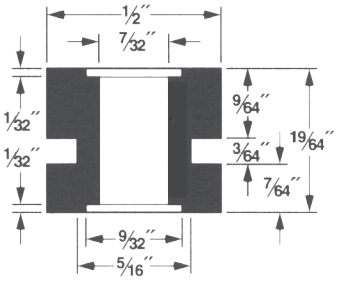
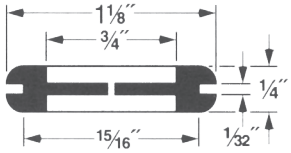


11-577

Split Web



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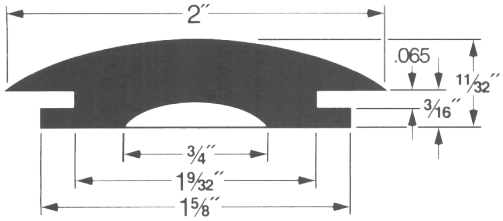
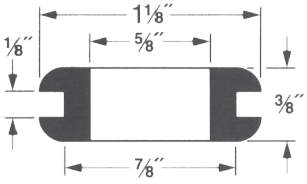
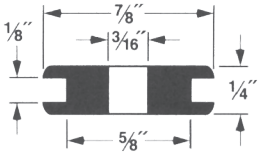


11-579



11-580



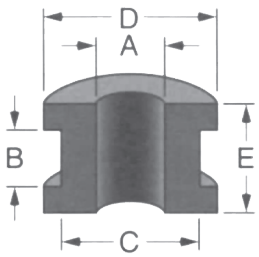
MILITARY GROMMETS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

MS-35489 Military Standard Grommets:
Supersedes AN-931. Rubber, hot-oil and coolant resistant material specification.

AN-931 Army-Navy Standard Grommets:
To procurement specification AN-G-21. Rubber, hot-oil and coolant resistant specification MIL-G-3036.



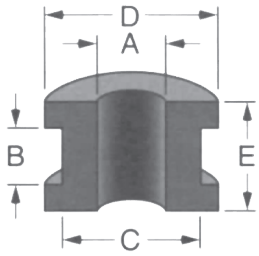
Military Grommets

Part #	MS35489	AN931	A Inside Diameter	B Groove Width	C Groove Diameter	D Outside Diameter	E Overall Thickness
11-104M	MS35489-1	—	1/8	1/16	1/4	11/32	3/16
11-115M	MS35489-4	AN931-3-5	3/16	1/16	5/16	7/16	3/16
11-122M	MS35489-33	AN931-3-A-5	3/16	1/8	5/16	7/16	1/4
11-123M	MS35489-62	AN931-3-B-5	3/16	3/16	5/16	7/16	5/16
11-125M	MS35489-91	AN931-3-C-5	3/16	1/4	5/16	7/16	3/8
11-119M	MS35489-134	AN931-3-9	3/16	1/16	9/16	3/4	3/16
11-580M	MS35489-34	AN931-3-A-10	3/16	1/8	5/8	7/8	1/4
11-136M	MS35489-6	AN931-4-7	1/4	1/16	7/16	5/8	3/16
11-145M	MS35489-35	AN931-4-A-7	1/4	1/8	7/16	5/8	1/4
11-146M	MS35489-64	AN931-4-B-7	1/4	3/16	7/16	5/8	5/16
11-148M	MS35489-93	AN931-4-C-7	1/4	1/4	7/16	5/8	3/8
11-139M	MS35489-8	AN931-4-16	1/4	1/16	1	1 1/4	1/4
11-156M	MS35489-9	AN931-5-9	5/16	1/16	9/16	13/16	5/16
11-160M	MS35489-38	AN931-5-A-9	5/16	1/8	9/16	13/16	3/8
11-166M	MS35489-67	AN931-5-B-9	5/16	3/16	9/16	13/16	7/16
11-169M	MS35489-96	AN931-5-C-9	5/16	1/4	9/16	13/16	1/2
11-157M	MS35489-10	AN931-5-12	5/16	1/16	3/4	1	5/16
11-161M	MS35489-39	AN931-5-A-12	5/16	1/8	3/4	1	3/8
11-167M	MS35489-68	AN931-5-B-12	5/16	3/16	3/4	1	7/16
11-170M	MS35489-97	AN931-5-C-12	5/16	1/4	3/4	1	1/2
11-174M	MS35489-11	AN931-6-10	3/8	1/16	5/8	7/8	5/16
11-178M	MS35489-40	AN931-6-A-10	3/8	1/8	5/8	7/8	3/8
11-180M	MS35489-69	AN931-6-B-10	3/8	3/16	5/8	7/8	7/16
11-175M	MS35489-12	AN931-6-16	3/8	1/16	1	1 1/4	1/4
11-184M	MS35489-13	AN931-7-11	7/16	1/16	11/16	15/16	5/16
11-185M	MS35489-42	AN931-7-A-11	7/16	1/8	11/16	15/16	3/8
11-189M	MS35489-100	AN931-7-C-11	7/16	1/4	11/16	15/16	1/2

ILLUSTRATIONS BELOW NOT TO SCALE

MS-35489 Military Standard Grommets:
Supersedes AN-931. Rubber, hot-oil and coolant resistant material specification.

AN-931 Army-Navy Standard Grommets:
To procurement specification AN-G-21. Rubber, hot-oil and coolant resistant specification MIL-G-3036.



Military Grommets

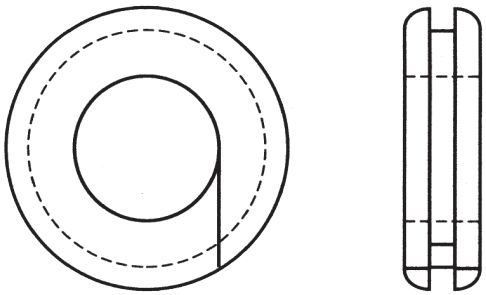
Part #	MS35489	AN931	A Inside Diameter	B Groove Width	C Groove Diameter	D Outside Diameter	E Overall Thickness
11-190M	MS35489-14	AN931-8-13	½	1/16	13/16	1 1/16	5/16
11-198M	MS35489-43	AN931-8-A-13	½	⅛	13/16	1 1/16	⅜
11-200M	MS35489-101	AN931-8-C-13	½	¼	13/16	1 1/16	½
11-192M	MS35489-15	AN931-8-20	½	1/16	1 ¼	1 ½	¼
11-205M	MS35489-16	AN931-9-13	9/16	1/16	13/16	1 1/16	5/16
11-206M	MS35489-74	AN931-9-B-13	9/16	3/16	13/16	1 1/16	7/16
11-212M	MS35489-17	AN931-10-14	⅝	1/16	⅞	1 ⅛	5/16
11-215M	MS35489-46	AN931-10-A-14	⅝	⅛	⅞	1 ⅛	⅜
11-216M	MS35489-75	AN931-10-B-14	⅝	3/16	⅞	1 ⅛	7/16
11-217M	MS35489-104	AN931-10-C-14	⅝	¼	⅞	1 ⅛	½
11-213M	MS35489-18	AN931-10-20	⅝	1/16	1 ¼	1 ½	¼
11-224M	MS35489-48	AN931-11-A-16	11/16	⅛	1	1 5/16	7/16
11-226M	MS35489-106	AN931-11-C-16	11/16	¼	1	1 5/16	9/16
11-230M	MS35489-20	AN931-12-17	¾	1/16	1 1/16	1 ⅜	⅜
11-233M	MS35489-49	AN931-12-A-17	¾	⅛	1 1/16	1 ⅜	7/16
11-235M	MS35489-107	AN931-12-C-17	¾	¼	1 1/16	1 ⅜	9/16
11-231M	MS35489-135	AN931-12-20	¾	1/16	1 ¼	1 ⅝	¼
11-239M	MS35489-22	AN931-14-20	⅞	1/16	1 ¼	1 ⅝	7/16
11-242M	MS35489-51	AN931-14-A-20	⅞	⅛	1 ¼	1 ⅝	½
11-246M	MS35489-109	AN931-14-C-20	⅞	¼	1 ¼	1 ⅝	⅝
11-248M	MS35489-23	AN931-16-22	1	1/16	1 ⅜	1 ¾	7/16
11-249M	MS35489-52	AN931-16-A-22	1	⅛	1 ⅜	1 ¾	½
11-252M	MS35489-110	AN931-16-C-22	1	¼	1 ⅜	1 ¾	⅝
11-258M	MS35489-27	AN931-24-28	1 ½	1/16	1 ¾	2 ⅛	7/16
11-259M	MS35489-56	AN931-24-A-28	1 ½	⅛	1 ¾	2 ⅛	½
11-262M	MS35489-114	AN931-24-C-28	1 ½	¼	1 ¾	2 ⅛	⅝

SPECIAL GROMMETS

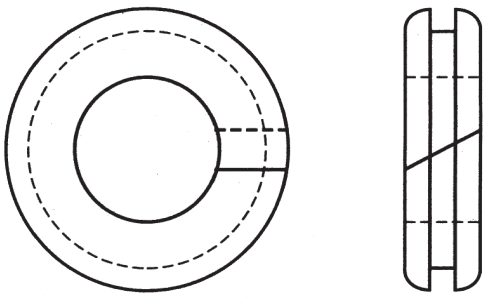
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

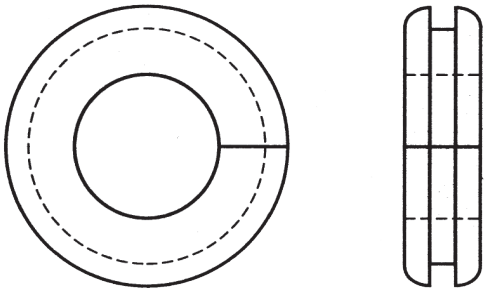
Longwood can mold grommets out of special elastomers or fabricate them by slitting in our fabrication shop!



TANGENT SPLIT



DIAGONAL SPLIT



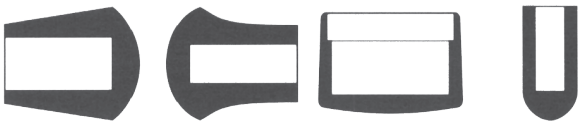
STRAIGHT SPLIT

1-800-829-7231 phone 336-272-5619 fax

CAPS & PLUGS
12

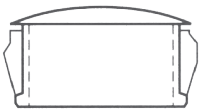
Laboratory Stoppers Pg. 50

Tips & Caps Pg. 51

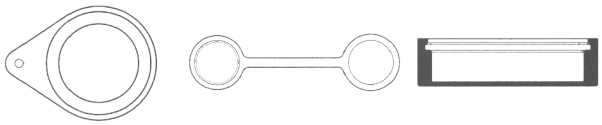
Vinyl/Polyethylene Tips & Caps  Pg. 53

Vinyl Caps & Plugs Pg. 54

Tapered Caps & Plugs Pg. 55

Nylon Locking Hole Plugs  Pg. 56

Miscellaneous Rubber Tips & Caps Pg. 57

Miscellaneous Rubber Caps  Pg. 59

Load-Bearing Furniture Glides Pg. 60

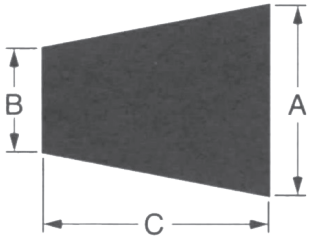
LABORATORY STOPPERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

00 0 1 2 3 4 5 6 7 8

NOTE: Also available with 5mm hole.



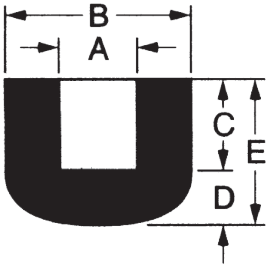
Part #	Size	A Top (mm)	B Bottom (mm)	C Length (mm)
12-LS000	000	12	9	18
12-LS00	00	15	10	25
12-LS0	0	17	13	25
12-LS1	1	19	14	25
12-LS2	2	20	16	25
12-LS3	3	24	18	25
12-LS4	4	26	20	25
12-LS5	5	27	23	25
12-LS6	6	32	26	25
12-LS7	7	37	30	25
12-LS8	8	41	33	25
12-LS85	8 ½	43	36	25
12-LS9	9	45	37	25
12-LS95	9 ½	46	38	25
12-LS10	10	50	42	25
12-LS105	10 ½	53	45	25
12-LS11	11	56	48	25
12-LS12	12	64	54	25
12-LS13	13	68	58	25
12-LS135	13 ½	75	62	35
12-LS14	14	90	75	39
12-LS15	15	103	83	39

Material: Mixture of natural rubber and SBR (also available in silicone)
Color: Black
Free Sulphur: ½% (maximum)
Duro: 40 ±5
Known Impurities: None

ILLUSTRATIONS BELOW NOT TO SCALE

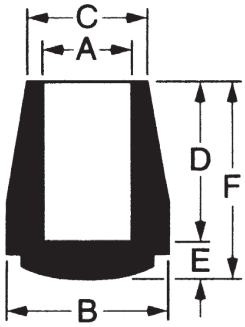
A VARIETY OF USES...

- Protect threaded surfaces during assembly and shipping
- Ends of tension rods for window and shower curtains
- Caps for small table and chair legs
- Reusable paint and plating masks in metal finishing department
- Provide dust, dirt, and moisture protection on tubing
- Bumper on door stops
- Better slip resistance than plastic



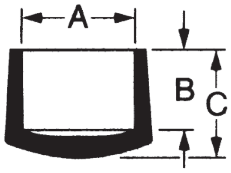
Rubber Tips/Caps - Rubber

Part #	A Inside Diameter	B Outside Diameter	C Inside Height	D End Thickness	E Total Height
12-200	5/32	23/64	7/16	1/8	9/16
12-201	7/32	1/2	1/4	7/64	23/64
12-202	1/4	17/32	11/32	1/4	19/32



Rubber Tips/Caps - Rubber

Part #	A Inside Diameter	B Outside Diameter	C Neck Diameter	D Inside Height	E End Thickness	F Total Height
12-203	7/32	15/32	3/8	11/16	7/32	29/32
12-204	19/64	15/32	3/8	11/16	7/32	29/32
12-205	13/32	9/16	15/32	11/16	7/32	29/32



VINYL
POLYETHYLENE

Heavy-Duty Caps

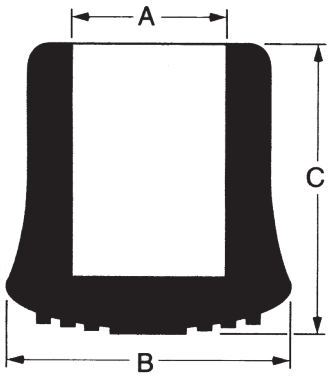
Part #	Material	A Inside Diameter	B Inside Height	C Total Thickness
12-60	Polyethylene	3/8	3/8	1/2
12-61	Vinyl	3/8	3/8	1/2
12-62	Polyethylene	7/16	7/16	17/16
12-63	Vinyl	7/16	7/16	17/16
12-64	Polyethylene	1/2	7/16	9/16
12-65	Vinyl	1/2	7/16	9/16
12-66	Polyethylene	5/8	1/2	5/8
12-67	Vinyl	5/8	1/2	5/8
12-68	Polyethylene	3/4	17/32	11/16
12-69	Vinyl	3/4	17/32	11/16

A heavy-duty plastic cap made in either durable semi-flexible polyethylene or soft flexible vinyl. This cap has varied applications as protective closure on tube or rod. The long-wearing, non-marking qualities have given this cap wide acceptance. Non-skid characteristics of vinyl make caps of this material excellent for use on lightweight items such as tray tables, toy furniture, etc. Available in black.

TIPS & CAPS

LONGWOOD

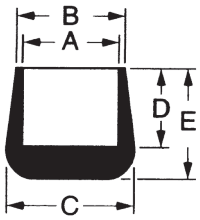
ILLUSTRATIONS BELOW NOT TO SCALE



RUBBER

Crutch Tips - Standard Series - Rubber

Black Part #	White Part #	Grey Part #	I.D.	O.D. @ Base	Overall Length	Trade Size
12-15B	12-15W	12-15G	3/8	3/4	1 1/4	15
12-16B	12-16W	12-16G	1/2	13/16	1 1/4	16
12-17B	12-17W	12-17G	5/8	1 1/8	1 1/2	17
12-18B	12-18W	12-18G	3/4	1 5/16	1 1/2	18
12-19B	12-19W	12-19G	7/8	1 3/8	1 1/2	19
12-20B	12-20W	12-20G	1	1 9/16	1 1/2	20
12-21B	12-21W	12-21G	1 1/8	1 5/8	1 3/4	21
12-22B	12-22W	12-22G	1 1/4	1 3/4	1 7/16	22



RUBBER

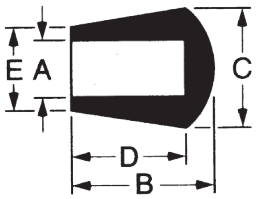
Furniture Leg Tips - Black Rubber

Part #	A	B	C	D	E	Trade Size	Standard Package
12-50	3/32	1/4	1/4	9/32	3/8	1/8″ Rod	50
12-51	5/32	1/4	11/32	3/8	1/2	3/16″ Rod	50
12-52	7/32	3/8	7/16	7/16	5/8	1/4″ Rod	50
12-53	1/4	3/8	7/16	7/16	5/8	9/32″ Rod	50
12-54	5/16	1/2	9/16	15/32	21/32	5/16″ Rod	50
12-55	3/8	1/2	9/16	15/32	21/32	3/8″ Rod	50
12-56	31/64	5/8	11/16	9/16	25/32	1/2″ Rod	50
12-57	5/8	3/4	7/8	5/8	7/8	5/8″ Rod	50
12-58	3/4	7/8	1	5/8	7/8	3/4″ Rod	50

1-800-829-7231 phone 336-272-5619 fax

VINYL AND POLYETHYLENE TIPS & CAPS

ILLUSTRATIONS BELOW NOT TO SCALE

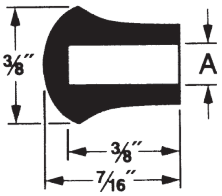


VINYL

Molded Vinyl Tips - Straight Sides

Part #	A	B	C	D	E	Wire Size
12-100	1/4	7/16	13/32	5/16	5/16	3
12-101	1/4	5/8	1/2	1/2	3/8	3
12-102	5/16	5/8	1/2	1/2	3/8	0

This straight-sided style is extremely smart on modern wrought iron furniture and accessories. Available in various colors. Polyethylene available on special order.

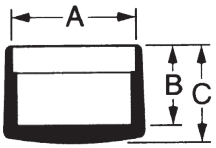


VINYL/PLASTIC

Molded Tips - Bell

Part #	A	Material	Wire Size
12-103	.125	Polyethylene	11
12-104	.125	Vinyl	11
12-105	.156	Polyethylene	9
12-106	.156	Vinyl	9
12-107	.187	Polyethylene	6
12-108	.187	Vinyl	6

Plastic bell tips are made of durable, flexible vinyl or unbreakable, semi-flexible polyethylene. Non-marking, non-staining on most surfaces. Used for protective and decorative ends.

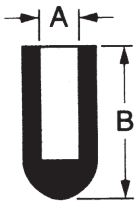


PLASTIC

Polyethylene Caps

Part #	A	B	C
12-109	3/8	7/16	7/32
12-110	1/2	15/32	9/16
12-111	5/8	1/2	19/32
12-112	3/4	17/32	5/8
12-113	7/8	9/16	21/32
12-114	1	5/8	23/32

This straight-sided style is extremely smart on modern wrought iron furniture and accessories. Available in various colors. Polyethylene available on special order.



VINYL

Dipped Vinyl Tips

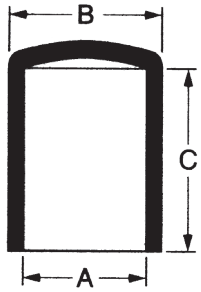
Part #	To Fit	A	B
12-116	1/8	.110	13/32
12-117	1/8	.110	17/32
12-118	.135	.121	13/32
12-119	.135	.121	17/32
12-120	5/32	.140	13/32
12-121	5/32	.140	17/32
12-122	3/16	.170	13/32
12-123	3/16	.170	19/32
12-124	1/4	.220	7/16
12-125	5/16	.280	15/32
12-126	3/8	.344	17/32
12-127	1/2	.433	17/32

Dipped tips are used as end caps, thread protection, metal finishing masking, crease fitting protection, color coding, etc.

VINYL CAPS & PLUGS

LONGWOOD

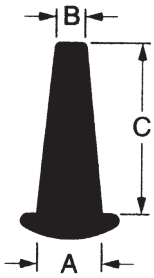
ILLUSTRATIONS BELOW NOT TO SCALE



VINYL

Vinyl Caps

Part #	A	B	C	Color	Shipping Wt. Approx. (lbs)	Pieces per Carton
12-700	.062	.122	⅝	Black	2	5,000
12-701	.080	.140	⅝	Brown	2	5,000
12-702	.093	.153	¾	Red	3	5,000
12-703	.109	.179	1	Orange	4	5,000
12-704	.125	.195	1	Yellow	5	5,000
12-705	.140	.210	1	Green	7	5,000
12-706	.156	.236	1	Blue	7	5,000
12-707	.172	.252	1	Gray	8	5,000
12-708	.187	.267	1	Black	10	5,000
12-709	.203	.293	1	Brown	11	5,000
12-710	.218	.308	1	Red	13	5,000
12-711	.234	.324	1	Orange	13	5,000
12-712	.250	.350	1	Yellow	13	5,000
12-713	.281	.381	1	Green	15	5,000
12-714	.312	.412	1	Blue	17	5,000
12-715	.343	.443	1	Gray	11	2,500
12-716	.375	.485	1	Black	14	2,500
12-717	.406	.516	1	Brown	14	2,500
12-718	.437	.547	1	Red	15	2,500
12-719	.500	.610	1	Orange	15	2,500
12-720	.531	.646	1	Yellow	16	2,500
12-721	.562	.682	1	Green	18	2,500
12-722	.625	.745	1	Blue	20	2,500
12-723	.687	.807	1	Gray	10	1,000
12-724	.750	.880	1	Black	11	1,000
12-725	.812	.942	1	Brown	11	1,000
12-726	.875	1.005	1	Orange	12	1,000
12-727	.937	1.067	1	Yellow	13	1,000
12-728	1.000	1.030	1	Green	14	1,000



VINYL

Vinyl Plugs

Part #	A	B	C	Color	Shipping Wt. Approx. (lbs)	Pieces per Carton
12-800	.150	.070	.625	Red	2	5,000
12-801	.200	.100	.500	Blue	3	5,000
12-802	.250	.140	.750	Green	7	5,000
12-803	.300	.140	1.000	Brown	8	5,000
12-804	.312	.160	.750	Orange	9	5,000
12-805	.312	.187	1.000	Gray	13	5,000
12-806	.343	.187	.750	Red	10	5,000

•High Temperature—temperatures up to 300ºF (150ºC)
•Non-Shredding—soft vinyl will not crack when stretched

LONGWOOD

TAPERED CAPS & PLUGS

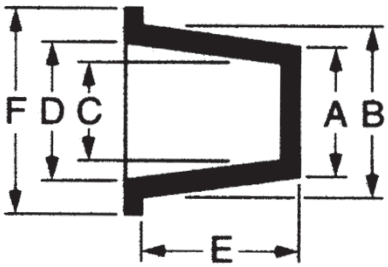
ILLUSTRATIONS BELOW NOT TO SCALE

•Longwood tapered caps and plugs are designed to provide superior protection against contaminants

•Cost effective protection for tubing, threads, and other machined parts.

•Use as shipping and storage protectors, paint masks, and dust and moisture barriers.

Specifications:
- Standard color: red
- Standard material: Low density polyethylene
- Conforms to MIL-C-5501/7



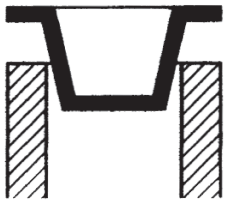
PLASTIC

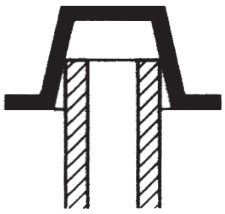
Tapered Caps and Plugs

Part #	A	B	C	D	E	F	Common Application as cap	Common Application as plug
12-600	.144	.179	.058	.123	13/32	5/16		
12-601	.139	.204	.083	.148	3/8	3/8		
12-602	.170	.236	.114	.180	3/8	3/8		
12-603	.189	.256	.130	.200	3/8	3/8		
12-604	.206	.270	.150	.214	3/8	7/16		
12-605	.233	.298	.177	.242	3/8	15/32		5/16 st. thrd.
12-606	.294	.361	.238	.305	3/8	17/32	15/64 st. thrd.	3/8 st. thrd.
12-607	.324	.391	.268	.335	3/8	9/16		1/8 N.P.T.
12-608	.356	.424	.300	.368	3/8	19/32		7/16 st. thrd.
12-609	.418	.484	.358	.424	3/8	19/32	1/8 N.P.T	1/4 N.P.T. / 1/2 st. thrd.
12-610	.472	.544	.412	.488	1/2	23/32	1/2 st. thrd.	9/16 st. thrd.
12-611	.526	.607	.470	.551	1/2	3/4	1/4 N.P.T	5/8 st. thrd.
12-612	.546	.626	.490	.570	1/2	25/32	9/16 st. thrd.	3/8 N.P.T.
12-613	.585	.674	.522	.608	17/32	7/8	5/8 st. thrd.	
12-614	.632	.723	.576	.667	1/2	7/8		3/4 st. thrd.
12-615	.686	.784	.630	.728	5/8	15/16		1/2 N.P.T
12-616	.750	.846	.690	.786	5/8	1 1/32		7/8 st. thrd.
12-617	.865	.973	.805	.913	3/4	1 1/8		3/4 N.P.T.
12-618	.964	1.088	.904	1.028	3/4	1 1/4	3/4 N.P.T	
12-619	1.095	1.215	1.035	1.155	3/4	1 1/2		1 N.P.T.
12-620	1.175	1.282	1.115	1.222	3/4	1 7/16		

When **plugging,** “B” Dim. must be at least .020″ larger than hole to be plugged.

When **capping,** "C" Dim. must be at least 1% smaller than diameter to be capped (min. .020″).





Wider flange is available for added protection for bearing surfaces

NYLON LOCKING HOLE PLUGS

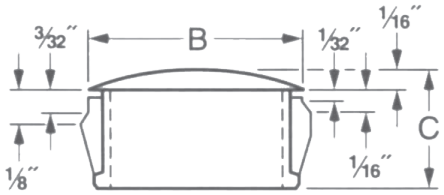
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Longwood nylon locking hole plugs are available in a large selection of sizes from 3⁄16″ to 1⁄8″.

Longwood locking hole plugs are used to close excess chassis holes, wiring outlets, and production access holes. These hole plugs are molded of heat-stabilized nylon (UL94V2) and may be more suitable for critical or elevated temperature applications.

Longwood vent plugs are available in 7⁄8″ and 1″ diameters. Call us at 1-800-829-7231 for color availability.



PLASTIC

Nylon Locking Hole Plugs

Part #	Chassis Hole Dia.	Max Chassis Thickness	Head Dia. B	Thickness C
12-1000	.187	.062	.250	.234
12-1001	.250	.062	.312	.312
12-1002	.312	.062	.375	.312
12-1003	.375	.125	.468	.406
12-1004	.437	.125	.531	.406
12-1005	.500	.125	.578	.406
12-1006	.562	.125	.656	.406
12-1007	.625	.125	.718	.406
12-1008	.687	.125	.781	.406
12-1009	.750	.125	.922	.406
12-1010	.812	.125	.890	.406
12-1011	.875	.125	1.016	.453
12-1012	1.000	.125	1.203	.453
12-1013	1.093/.125	.125	1.218	.453
12-1014	1.187	.125	1.312	.453
12-1015	1.250	.125	1.375	.453
12-1016	1.375	.125	1.500	.453
12-1017	1.500	.125	1.672	.453
12-1018	1.750	.125	1.906	.453
12-1019	2.000	.125	2.140	.453
Locking Vent Plugs				
12-2000	.875	.125	1.016	.453
12-2001	1.000	.125	1.203	.453

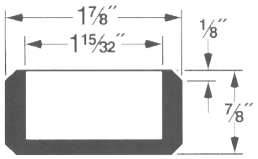
For Longwood rubber grommets used for holes that are not plugged - see Section 11

LONGWOOD

MISCELLANEOUS RUBBER TIPS & CAPS

ILLUSTRATIONS BELOW NOT TO SCALE

12-300



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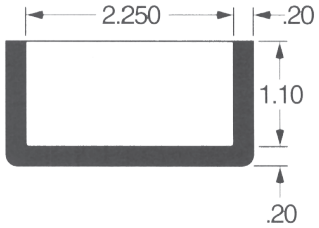

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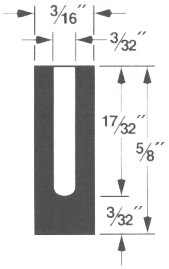

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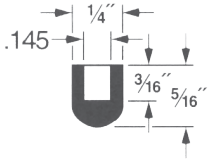

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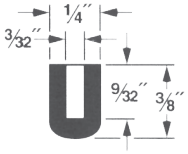

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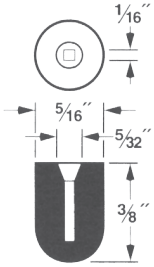

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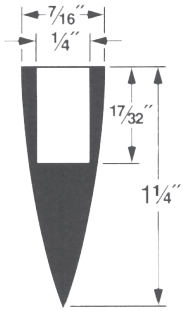

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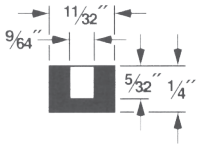

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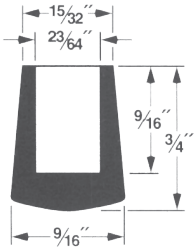

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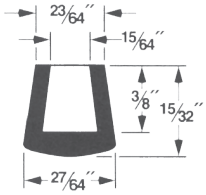

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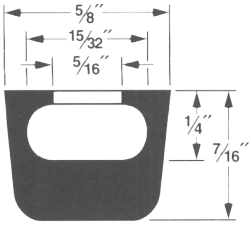

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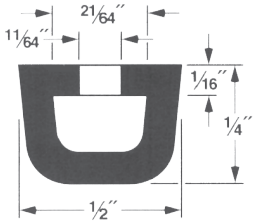

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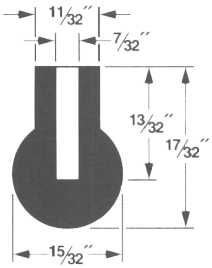

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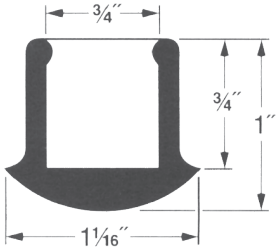
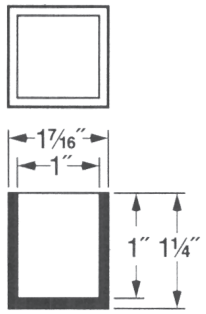


MISCELLANEOUS RUBBER TIPS & CAPS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

12-314



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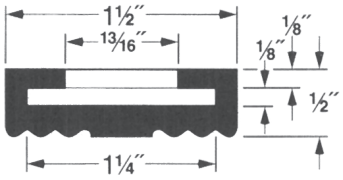

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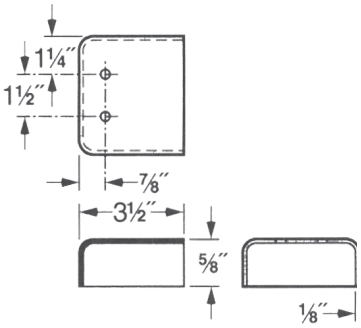

12-2280R
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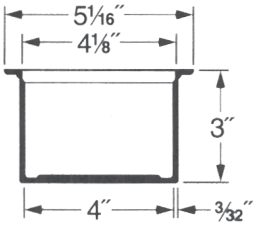

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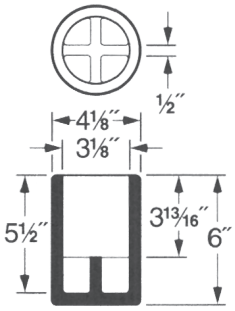

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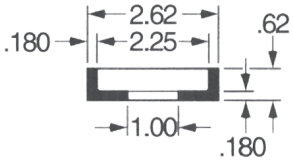

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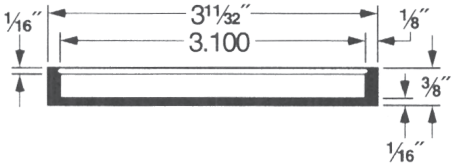
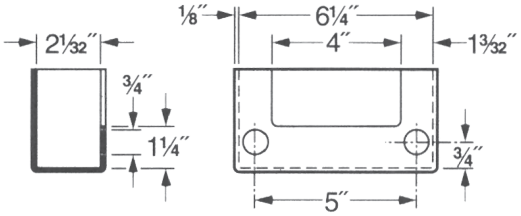


12-143R



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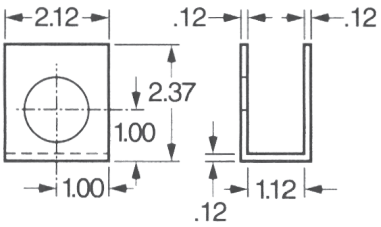

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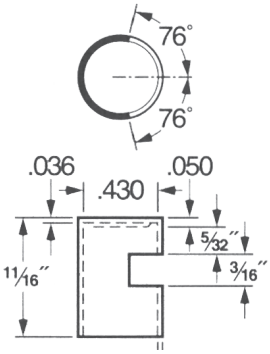

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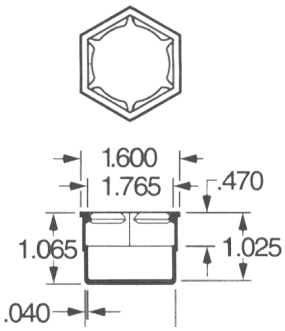
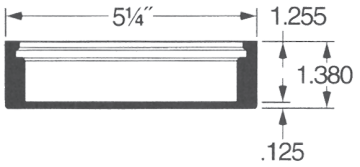


LONGWOOD

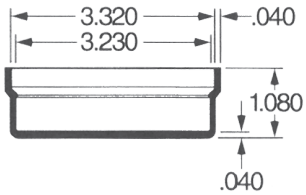
MISCELLANEOUS RUBBER CAPS

ILLUSTRATIONS BELOW NOT TO SCALE

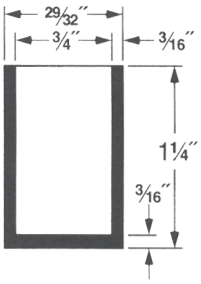
12-3961R



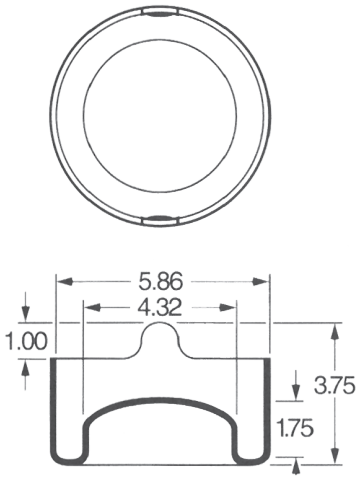
12-1056R



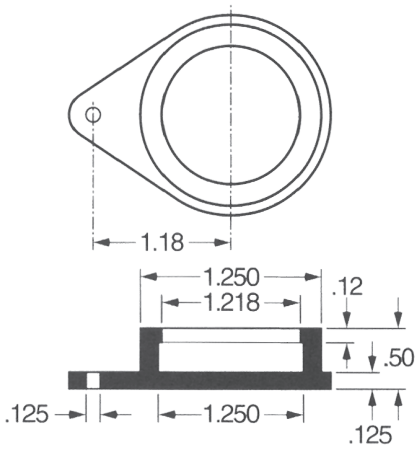
12-6154R



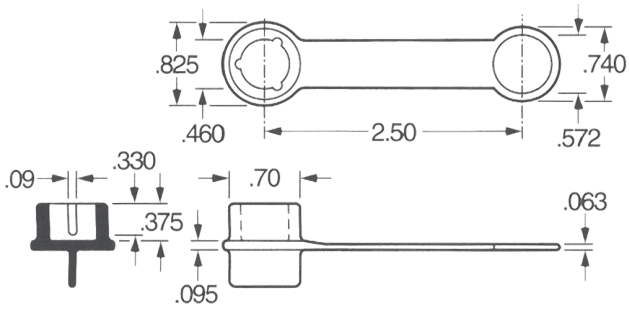
12-1603R



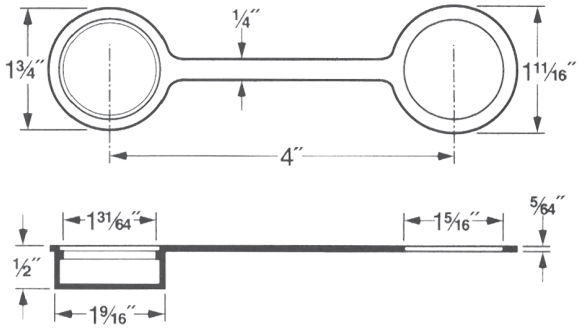
12-161R



12-4902R



12-6187R



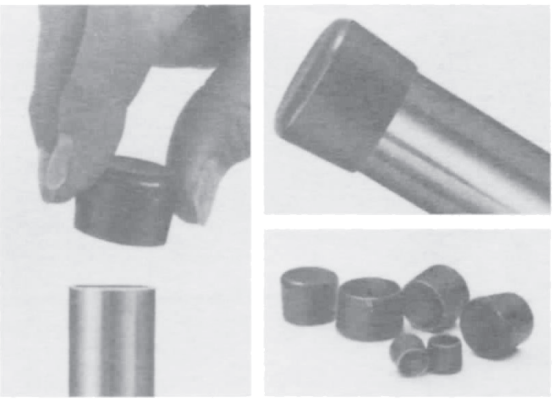
Longwood custom-molds products to your specifications!

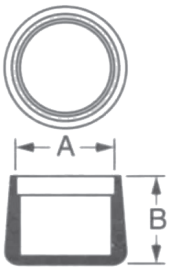
LOAD-BEARING FURNITURE GLIDES

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

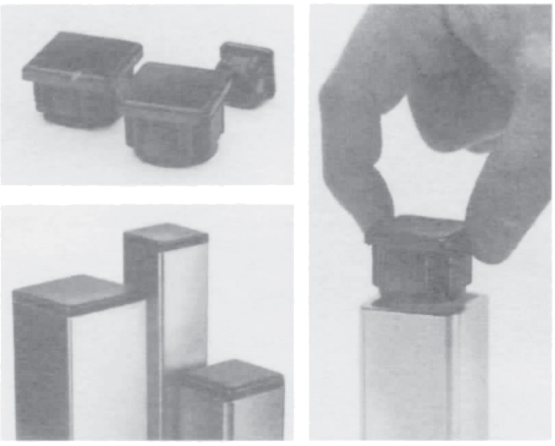
Longwood round caps make economical, attractive glides for everything from household and patio furniture to office chairs and tables; from utility carts to exercise equipment. As finishing caps for both rods and tubing, they cover any scratches, burrs, or distortions that may result from cutting operations. They also provide protection against injury from sharp rod and tubing edges.

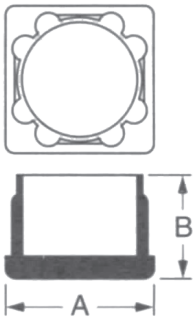




PLASTIC

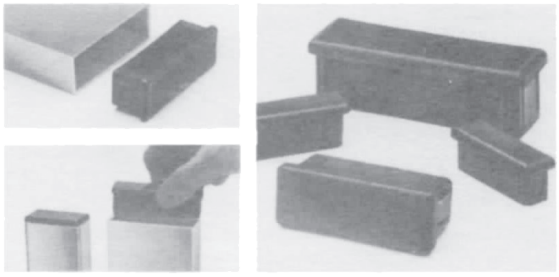
Longwood square plugs are available in 16 different sizes and gauge combinations to fit square tubings most frequently employed in furniture, fixture, and other equipment manufacture. As load-bearing glides or snug-fitting closures, they satisfy numerous functional requirements while enhancing product appearance.

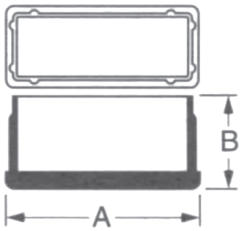




PLASTIC

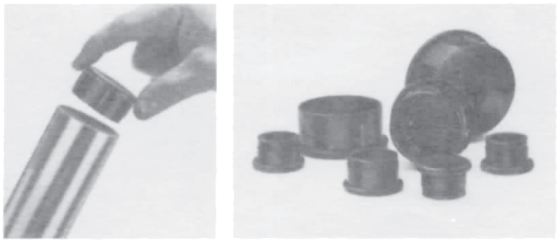
Offered in a broad selection of width-to-length proportions, Longwood rectangular plugs are designed to fit many special tubing shapes found on stands for computer terminals and office machines, display fixtures, and similar metal furnishings and equipment. Durable construction assures exceptional performance in business and commercial applications.

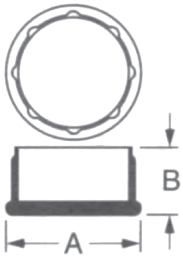




PLASTIC

Durable construction and excellent gliding characteristics recommend Longwood round plugs for use on a wide range of metal furniture, appliances, and similar items. Because they have a secure fit, a thick, impact and abrasion resistant base, and will not rust or corrode, Longwood plugs are ideal tubing closures for products subject to heavy-duty service or exposure to adverse environments.





PLASTIC

Longwood offers a wide variety of caps and plugs to meet your needs - 1-800-829-7231

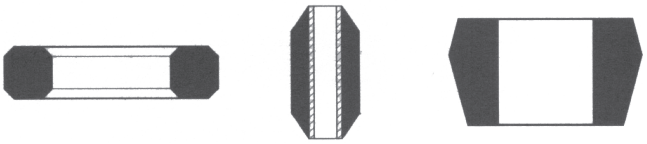
WASHERS & BUSHINGS 13

Nylon Washers Pg. 62

Rubber Washers Pg. 63

Bushings Pg. 64

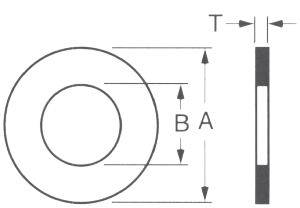
Nylon Machine Screw Insulators Pg. 66

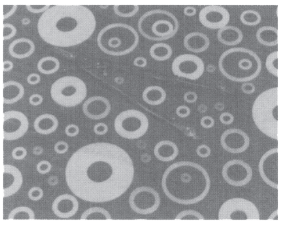
Miscellaneous Rubber Washers & Bushings  Pg. 68

NYLON WASHERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

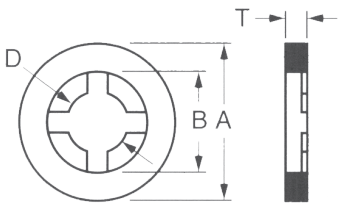


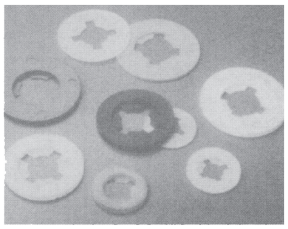


Standard Molded Nylon Flat Washers— By "A" Dimension

Part #	A ±.015	B ±.015	T ±.010
13-4000	¼	.090	.032
13-4001	¼	.090	.062
13-4002	¼	.090	.093
13-4003	¼	.090	.125
13-4004	¼	.115	.032
13-4005	¼	.115	.062
13-4006	¼	.115	.093
13-4007	¼	.115	.125
13-4008	5⁄16	.140	.032
13-4009	5⁄16	.140	.062
13-4010	5⁄16	.140	.093
13-4011	5⁄16	.140	.125
13-4012	⅜	.171	.032
13-4013	⅜	.171	.062
13-4014	⅜	.171	.093
13-4015	⅜	.171	.125
13-4016	⅜	.194	.032
13-4017	⅜	.194	.062
13-4018	⅜	.194	.093
13-4019	⅜	.194	.125
13-4020	½	.257	.032
13-4021	½	.257	.062
13-4022	½	.257	.093
13-4023	½	.257	.125
13-4024	½	.317	.032
13-4025	½	.317	.062
13-4026	½	.317	.093
13-4027	½	.317	.125
13-4028	⅝	.375	.032
13-4029	⅝	.380	.062
13-4030	⅝	.380	.093
13-4031	⅝	.380	.125
13-4032	¾	.443	.032
13-4033	¾	.443	.062
13-4034	¾	.443	.093
13-4035	¾	.443	.125
13-4036	¾	.505	.032
13-4037	¾	.505	.062
13-4038	¾	.505	.093
13-4039	¾	.505	.125

We will also tool custom flat washers for a nominal engineering charge. Size range up to 3" OD. Minimum thickness 1/32".





Standard Molded Nylon Retaining Washers— By "A" Dimension

Part #	A ±.015	B ±.015	D	T ±.010
13-5000	13⁄64	.115	.078	.031
13-5001	13⁄64	.115	.078	.062
13-5002	17⁄64	.156	.102	.031
13-5003	17⁄64	.156	.102	.062
13-5004	21⁄64	.198	.128	.031
13-5005	21⁄64	.198	.128	.062
13-5006	25⁄64	.235	.152	.031
13-5007	25⁄64	.235	.152	.062
13-5008	29⁄64	.277	.177	.031
13-5009	29⁄64	.277	.177	.062
13-5010	19⁄32	.375	.234	.031
13-5011	19⁄32	.375	.234	.062
13-5012	47⁄64	.470	.292	.031
13-5013	47⁄64	.470	.292	.062
13-5014	57⁄64	.564	.350	.031
13-5015	57⁄64	.564	.350	.062
13-5016	1 1⁄64	.570	.410	.031
13-5017	1 1⁄64	.570	.410	.062
13-5018	1 ⅛	.690	.468	.031
13-5019	1 ⅛	.690	.468	.062

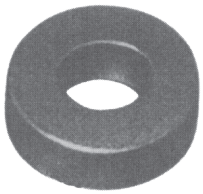
Similar to our standard flat washers, but with a specially configured ID designed to grip the outside of the screw shank. The washer slides on the screw easily, but is retained on the screw. For use in applications requiring pre-assembly of the screw and washer, to reduce final assembly cost.

ILLUSTRATIONS BELOW NOT TO SCALE

RUBBER (EPDM) WASHERS

The outside diameter dimensions listed as standard are based on “pan head” dimensions delineated in USAS B 19.6.4. The outside diameters listed as optional are based on standard SAE steel washers common to the trade. Standard thickness is 3/32″. Optional thicknesses are available.

Rubber EPDM washers are packed 1,000 pieces per poly-bag.



Rubber (EPDM) Washers

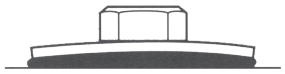
Part #	Screw Size	Outside Diameter	Inside Diameter
13-8000	#6 Standard	¼	.120
13-8001	#6 Optional	⅜	.120
13-8002	#8 Standard	5⁄16	.150
13-8003	#8 Optional	7⁄16	.150
13-8004	#10 Standard	⅜	.170
13-8005	#10 Optional	½	.170
13-8006	#12 Standard	7⁄16	.195
13-8007	#12 Optional	9⁄16	.195
13-8008	#14 Standard	½	.230
13-8009	#14 Optional	⅝	.230
13-8010	5/16" Standard	9⁄16	.290
13-8011	5/16" Optional	11⁄16	.290
13-8012	3/8" Standard	⅝	.355
13-8013	3/8" Optional	13⁄16	.355
13-8014	1/2" Optional	1 1⁄16	.490
13-8015	5/8" Optional	1 5⁄16	.615
13-8016	3/4" Optional	1 ½	.740
13-8017	1" Optional	2	.990

Longwood rubber-to-metal washers are used to solve problems of sealing, cushioning, or abrasion.

Features include:

- Quality elastomeric compounding to meet specifications for elasticity, memory, temperature extremes, and chemical, ozone, and sunlight resistance.
- Conical design directs flow of facing materials to form a seal conforming to both fastener and sealing surface.
- Full-face design cushions fragile surfaces and minimizes vibration.
- Inside diameter sizes for #4 screw through 1 ½″ diameter bolts and corresponding metric range.
- Outside diameter sizes from ¼″ to 3″ and corresponding metric range.
- Choice of infinite number of backing materials.
- Choice of various colors and finishes.
- Choice of various facing materials.

“Seals against any surface”



Insufficient tightening
Likely to cause leakage under seal and around fastener.

Correct installation
Tight against surface. Seal flows inward to seal minor fastener diameter and surface voids.

Excessive torque
Causes reverse dishing. Leakage under seal is possible.

Rubber-to-Metal Washers

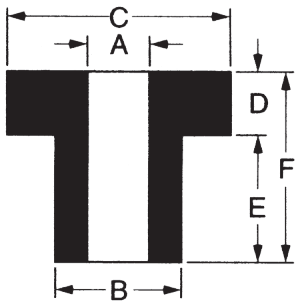
Part #	Outside Diameter	Inside Diameter
13-9000	¼	#4 thru #8
13-9001	⅜	#4 thru #12
13-9002	½	#8 thru #14
13-9003	9⁄16	#8 thru #14
13-9004	⅝	#8 thru 5/16
13-9005	¾	#10 thru 3/8
13-9006	⅞	#10 thru 3/8
13-9007	1	#14 thru 1/2
13-9008	1 ⅛	#8 thru 1/2
13-9009	1 3⁄16	#10 thru 3/4
13-9010	1 ¼	#10 thru 3/4
13-9011	1 ½	#14 thru 3/4

Available:
- 20 gauge galvanized/neoprene
- 20 gauge stainless/neoprene
- High-tensile aluminum/neoprene

BUSHINGS

LONGWOOD

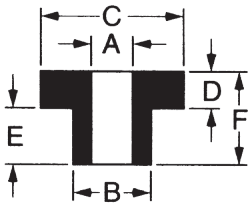
ILLUSTRATIONS BELOW NOT TO SCALE



RUBBER

Rubber Step Bushings

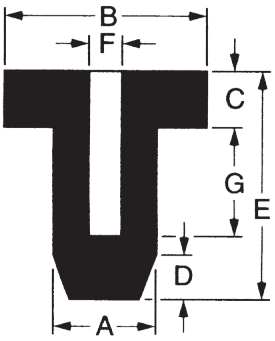
Part #	A Inside Diameter	B Stem Diameter	C Flange Diameter	D Flange Height	E Stem Height	F Total Height
13-100	1/8	1/4	3/8	7/64	17/64	3/8
13-101	9/64	1/2	3/4	1/8	1/4	3/8
13-102	11/64	9/32	1/2	3/32	7/64	13/64
13-103	7/32	7/16	1	1/8	3/16	5/16
13-104	7/32	1/2	3/4	1/8	1/4	3/8
13-105	1/4	3/8	3/4	1/8	3/8	1/2
13-106	1/4	13/32	5/8	3/32	5/16	13/32
13-107	1/4	7/16	5/8	3/64	13/64	1/4
13-108	5/16	1/2	3/4	1/8	9/32	13/32
13-109	5/16	5/8	1	1/4	3/8	5/8



VINYL

Vinyl Step Bushings

Part #	A Inside Diameter	B Stem Diameter	C Flange Diameter	D Flange Height	E Stem Height	F Total Height
13-200	5/16	1/2	3/4	1/8	3/16	3/8
13-201	7/32	11/16	11/16	1/8	15/32	5/8
13-202	5/16	5/8	1	1/4	5/16	5/8
13-203	1	1 3/16	1 3/8	1/8	3/16	13/32
13-204	5/32	5/16	7/16	5/32	5/32	5/16



RUBBER

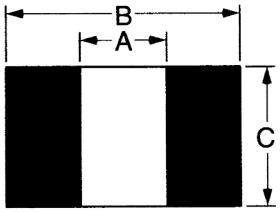
Rubber Stoppers/Bumpers/Bushings

Part #	A Stem Diameter	B Cap Diameter	C Cap Height	D Chamfer Height	E Total Height	F Recess Diameter	G Recess Height
13-300	11/32	5/8	3/16	1/4	1	1/8	13/16
13-301	3/8	3/4	7/32	5/16	1 1/8	5/32	7/8
13-302	1/2	7/8	1/4	5/16	1 1/4	3/16	1
13-303	21/32	1 1/16	15/64	29/64	1 1/4	1/4	1 1/16

1-800-829-7231 phone 336-272-5619 fax

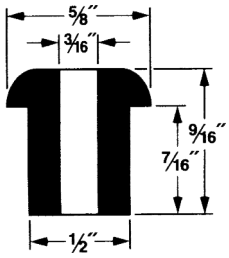
ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Bushings			
Part #	A	B	C
13-400	5/64	13/32	3/16
13-401	9/64	3/8	1/4
13-402	5/16	1 1/2	23/64

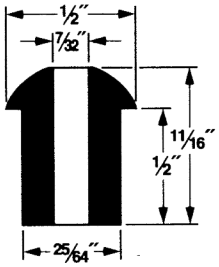


RUBBER

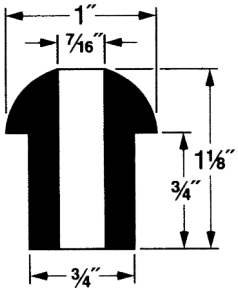
13-403



13-404



13-405



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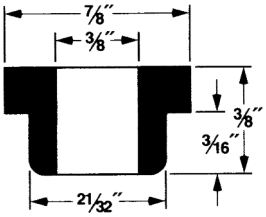

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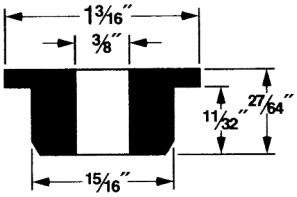

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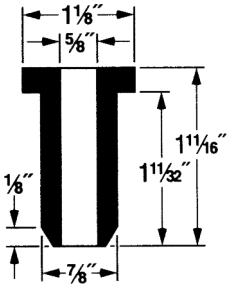

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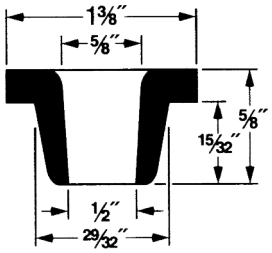

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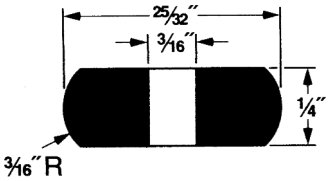

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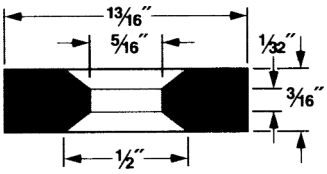

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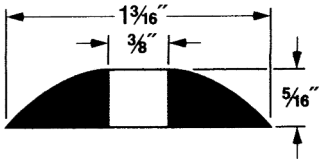
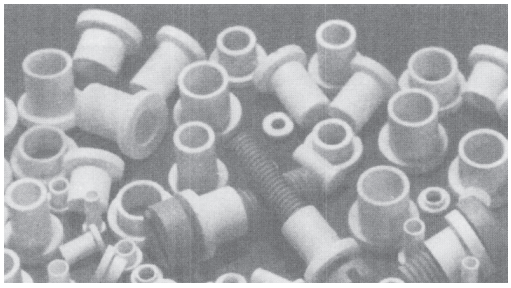
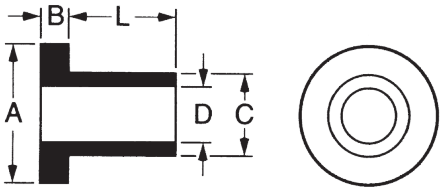


NYLON MACHINE SCREW INSULATORS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE





PLASTIC

Longwood nylon screw insulators are used to isolate metal screws electrically as well to reduce corrosion. They can be used as light-load bearings in many applications. Specify the screw size and length when ordering. Specials can be made to order for a small tooling charge.

Longwood...

your source for rubber and plastic parts

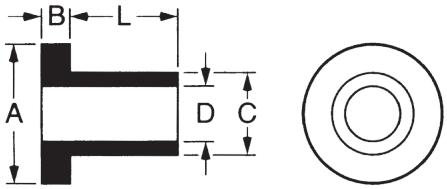
1-800-829-7231

Nylon Machine Screw Insulators

Part #	Description	L	A	B	C	D
13-1000	SC2	1/8	.181	3/64	.120	.090
13-1001	SC2	3/16	.181	3/64	.120	.090
13-1002	SC2	1/4	.181	3/64	.120	.090
13-1003	SC2	3/8	.181	3/64	.120	.090
13-1004	SC4	1/32	.235	3/64	.145	.115
13-1005	SC4	3/64	.235	3/64	.145	.115
13-1006	SC4	1/16	.235	3/64	.145	.115
13-1007	SC4	3/32	.235	3/64	.145	.115
13-1008	SC4	1/8	.235	3/64	.145	.115
13-1009	SC4	5/32	.235	3/64	.145	.115
13-1010	SC4	3/16	.235	3/64	.145	.115
13-1011	SC4	1/4	.235	3/64	.145	.115
13-1012	SC4	3/8	.235	3/64	.145	.115
13-1013	SC4	1/2	.235	3/64	.145	.115
13-1014	SC6	3/64	.290	3/64	.170	.140
13-1015	SC6	1/16	.290	3/64	.170	.140
13-1016	SC6	3/32	.290	3/64	.170	.140
13-1017	SC6	1/8	.290	3/64	.170	.140
13-1018	SC6	5/32	.290	3/64	.170	.140
13-1019	SC6	3/16	.290	3/64	.170	.140
13-1020	SC6	1/4	.290	3/64	.170	.140
13-1021	SC6	3/8	.290	3/64	.170	.140
13-1022	SC6	1/2	.290	3/64	.170	.140
13-1023	SC8	1/8	.344	1/16	.205	.173
13-1024	SC8	9/64	.344	1/16	.205	.173
13-1025	SC8	1/4	.344	1/16	.205	.173
13-1026	SC8	3/8	.344	1/16	.205	.173
13-1027	SC8	1/2	.344	1/16	.205	.173
13-1028	SC8	5/8	.344	1/16	.205	.173
13-1029	SC8	3/4	.344	1/16	.205	.173
13-1030	SC10	9/64	.399	1/16	.260	.200
13-1031	SC10	3/16	.399	1/16	.260	.200
13-1032	SC10	1/4	.399	1/16	.260	.200
13-1033	SC10	3/8	.399	1/16	.260	.200
13-1034	SC10	1/2	.399	1/16	.260	.200
13-1035	SC10	9/16	.399	1/16	.260	.200
13-1036	SC10	5/8	.399	1/16	.260	.200
13-1037	SC10	3/4	.399	1/16	.260	.200
13-1038	SC250	1/8	.513	1/16	.312	.260
13-1039	SC250	9/64	.513	1/16	.312	.260

NYLON MACHINE SCREW INSULATORS

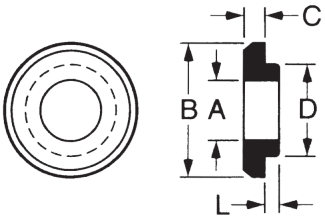
ILLUSTRATIONS BELOW NOT TO SCALE



PLASTIC

Nylon Machine Screw Insulators (continued)

Part #	Description	L	A	B	C	D
13-1040	SC250	3⁄16	.513	1⁄16	.312	.260
13-1041	SC250	¼	.513	1⁄16	.312	.260
13-1042	SC250	⅜	.513	1⁄16	.312	.260
13-1043	SC250	½	.513	1⁄16	.312	.260
13-1044	SC250	⅝	.513	1⁄16	.312	.260
13-1045	SC250	¾	.513	1⁄16	.312	.260
13-1046	SC312	⅛	.620	1⁄16	.360	.320
13-1047	SC312	¼	.620	1⁄16	.360	.320
13-1048	SC312	⅜	.620	1⁄16	.360	.320
13-1049	SC312	½	.620	1⁄16	.360	.320
13-1050	SC312	⅝	.620	1⁄16	.360	.320



PLASTIC

Nylon Shoulder Washers

Part #	Description	L	A	B	C	D
13-2000	SW2	.040	.093	.250	.040	.156
13-2001	SW4	.040	.281	.281	.040	.187
13-2002	SW6	.040	.146	.328	.040	.218
13-2003	SW8	.050	.174	.375	.050	.250
13-2004	SW10	.050	.201	.437	.050	.281
13-2005	SW ¼	.060	.260	.562	.060	.375
13-2006	SC ⅜	.060	.385	.750	.060	.500

Longwood can custom-mold, die-cut, or lathe-cut parts to your specifications!

Call 1-800-829-7231

— or —

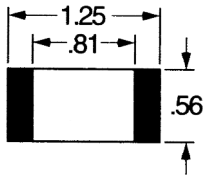
fax your drawing to 1-336-272-5619

MISCELLANEOUS RUBBER WASHERS & BUSHINGS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

13-2207R



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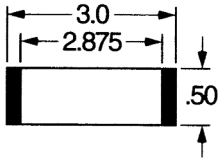

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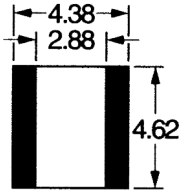

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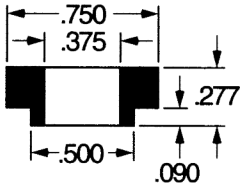

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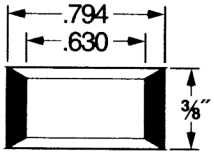

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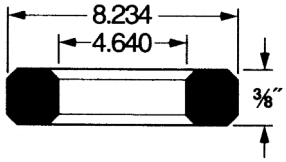

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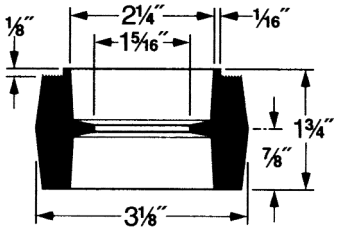

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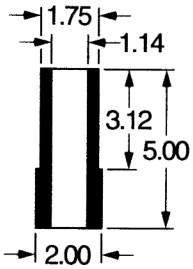

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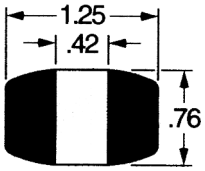

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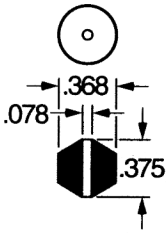

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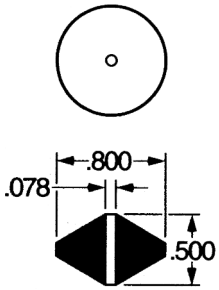

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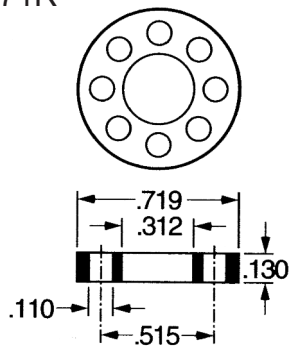

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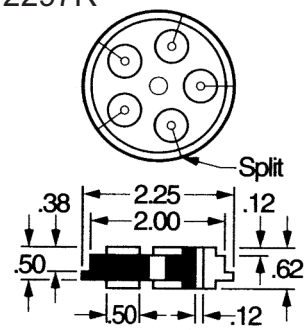

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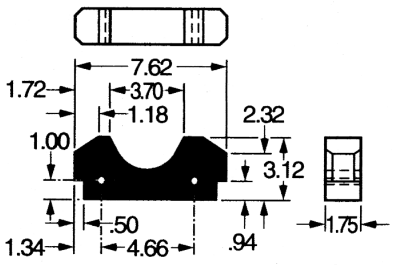
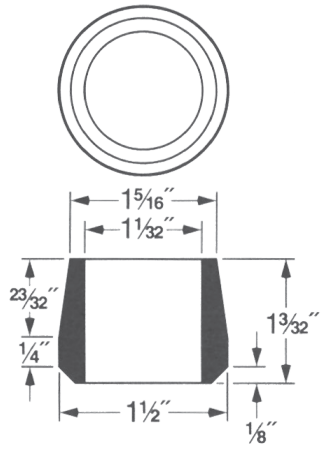


ILLUSTRATIONS BELOW NOT TO SCALE

13-209R



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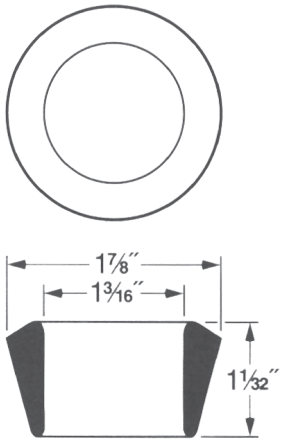

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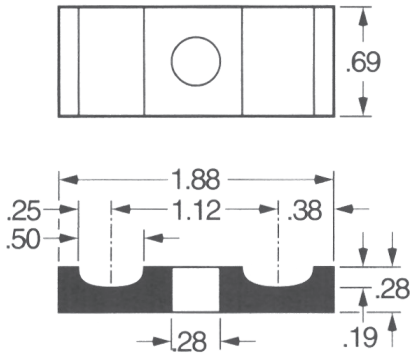

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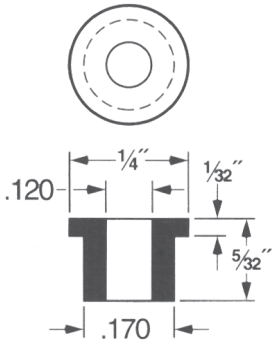

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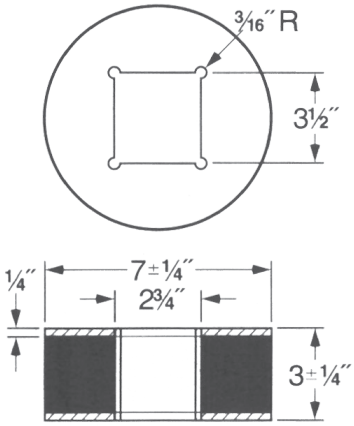

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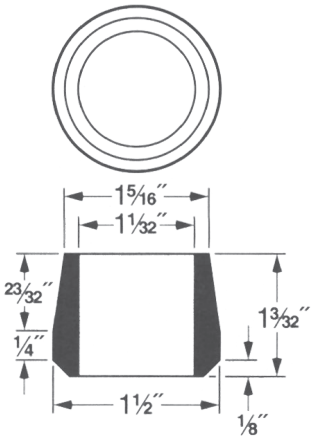
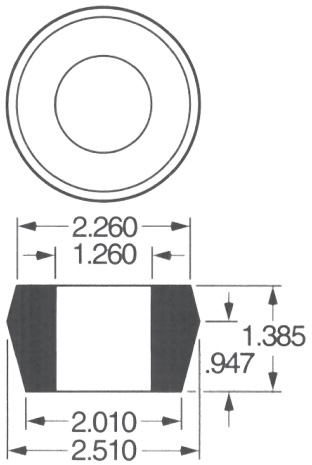
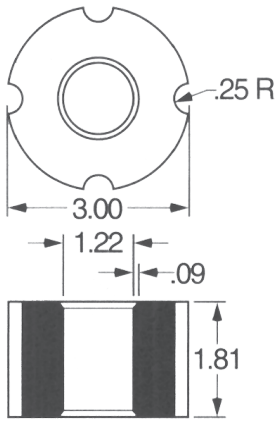


RUBBER BUSHINGS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE





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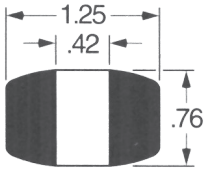

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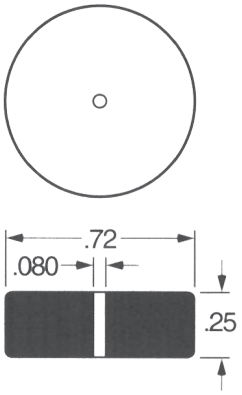

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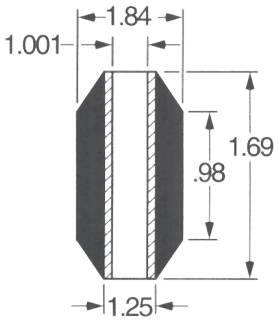

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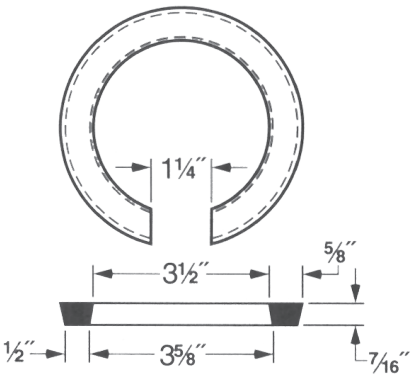

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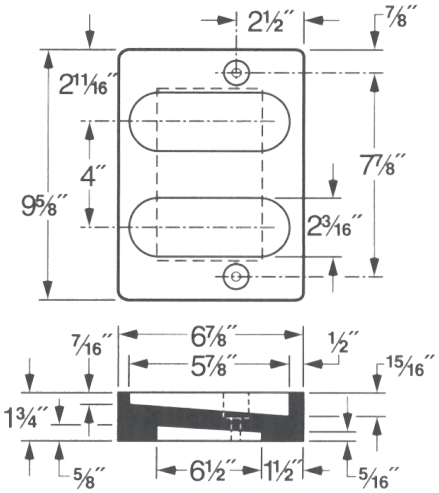
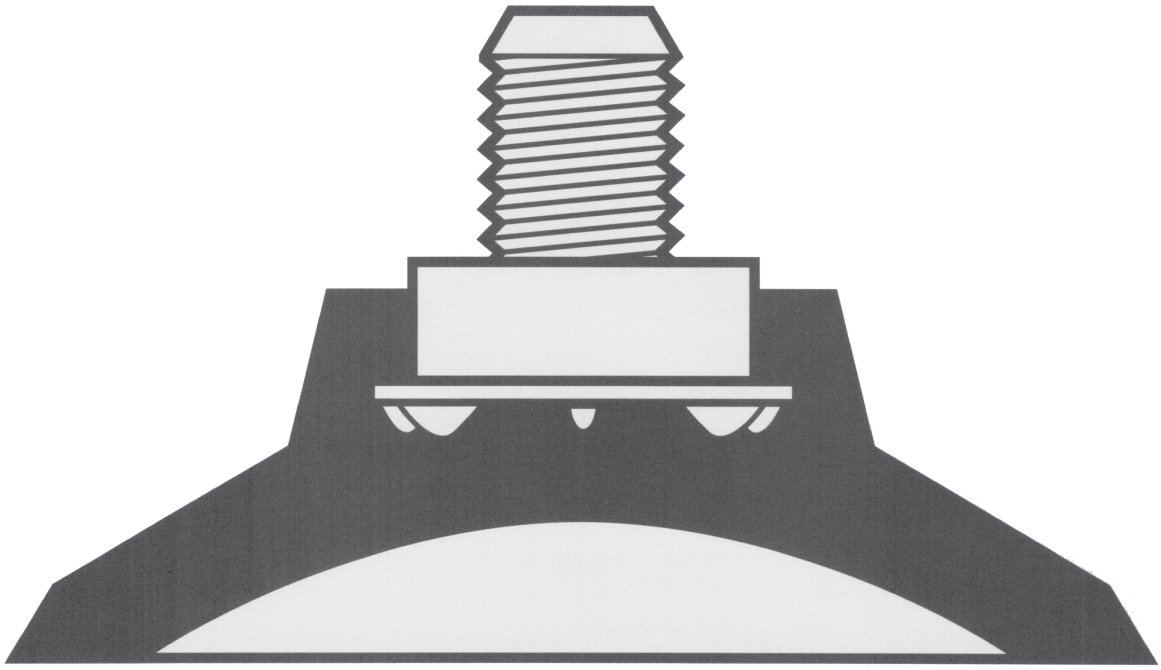


SUCTION CUPS 14

Material-Handling Suction Cups Pg. 72

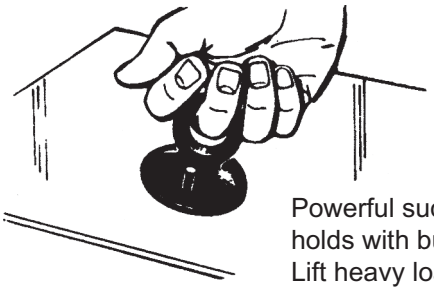
Rubber Suction Cups Pg. 73



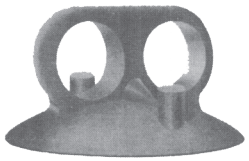
MATERIAL-HANDLING SUCTION CUPS

LONGWOOD

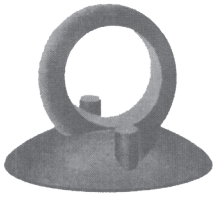
ILLUSTRATIONS BELOW NOT TO SCALE



Powerful suction grips and holds with bulldog tenacity. Lift heavy loads with perfect safety.



14-1122



14-1123
14-1125

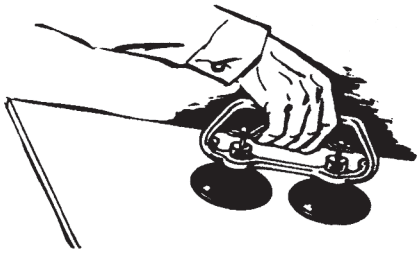
14-1124

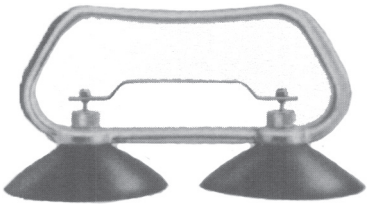
THE LITTLE GRABBERS

One- and two-finger tools for lifting light objects or raising corners. Always ready. Leave hand free for other work. Easy-release tabs.

14-1122	3 ¼″ Cup
14-1123	2 ⅝″ Cup
14-1124	2 ⅛″ Cup*
14-1125	2 ⅛″ Cup

*Without release tabs

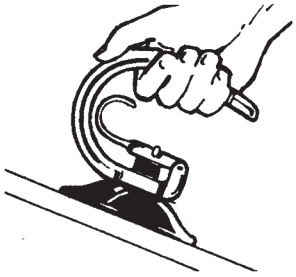


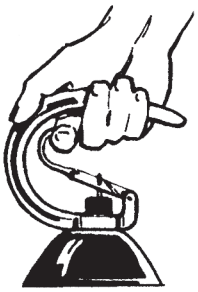


HEAVY-DUTY DOUBLE CUP (SHEET METAL HANDLING TOOL)

Versatile one- or two-hand lifting. The 5″ cups safely lift weights far beyond operator's normal capacity. Simultaneous trigger release.

14-1128	2 - 4″ Cups
14-1129	2 - 5″ Cups





Press release button to disengage vacuum lifter instantly from load.

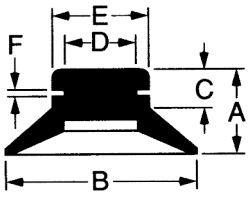
HEAVY-DUTY (SHEET METAL HANDLING TOOL)

Lifts heavy loads safely. Powerful suction grips material and holds until released by hand trigger. Use for loading, unloading, piling, and shifting sheet metal.

14-1126	4″ Cup
14-1127	5″ Cup

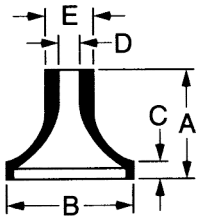
RUBBER SUCTION CUPS

ILLUSTRATIONS BELOW NOT TO SCALE



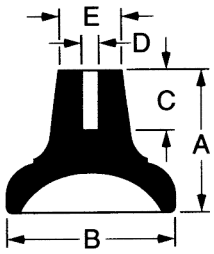
Suction Cups

Part #	A	B	C	D	E	F
14-1000	7/16	1	1/8	3/8	1/2	1/16
14-1001	7/16	19/32	7/32	1/4	5/16	3/64
14-1002	7/16	1	1/8	3/8	1/2	1/32
14-1003	7/16	1	9/32	3/8	1/2	3/32
14-1004	7/16	1	9/32	3/8	1/2	1/32
14-1005	7/16	1	1/8	3/8	1/2	3/32



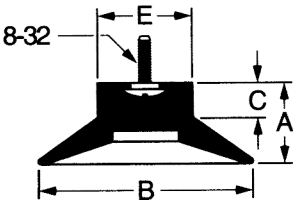
Suction Cups

Part #	A	B	C	D	E
14-2000	.595	.671	.156	.109	.250
14-2001	9/16	5/8	9/16	7/64	1/4
14-2002	.708	1 3/8		5/8	5/8



Suction Cups

Part #	A	B	C	D	E
14-3000	3/4	7/8	5/16		3/8
14-3001	7/16	19/32	7/32		5/16
14-3002	3/4	7/8	5/16	7/64	3/8



Suction Cups

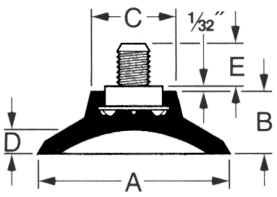
Part #	A	B	C	E
14-4000	7/16	1	3/16	1/2
14-4001	7/16	1	3/16	1/2
14-4002	17/32	1 1/4	3/16	5/8
14-4003	1/2	1 3/8	5/32	5/8

Longwood can custom-mold suction cups to your specifications!

RUBBER SUCTION CUPS

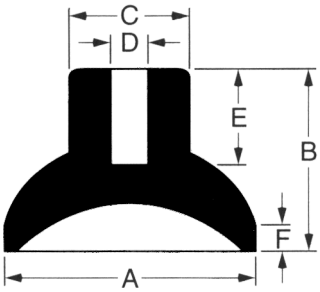
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



Machine Screw Type Suction Cups

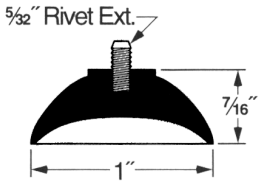
Part #	A	B	C	D	E
14-5000	1	5/16	7/16	1/8	1/4
14-5001	1 3/8	1/2	1/2	1/4	3/8
14-5002	1 1/2	1/2	1/2	1/4	3/8



Hollow Stem Type Suction Cups

Part #	A	B	C	D	E	F
14-6000	15/16	11/16	7/16	13/64	1/4	11/64
14-6001	1 5/16	15/16	5/8	3/32	3/8	1/4
14-6003	1 5/16	15/16	5/8	1/4	1/2	1/4
14-6005	1 1/4	1 1/8	5/8	9/32	5/8	1/4

14-5100



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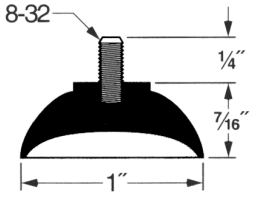

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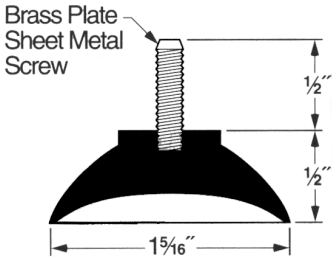

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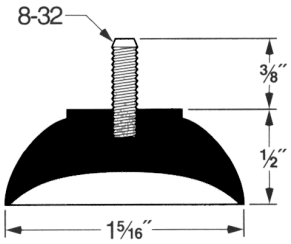

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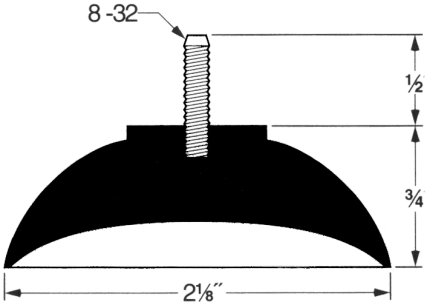

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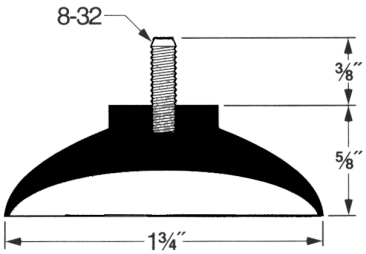

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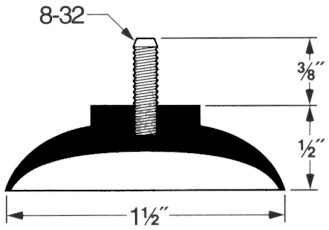

LONGWOOD

RUBBER SUCTION CUPS

ILLUSTRATIONS BELOW NOT TO SCALE

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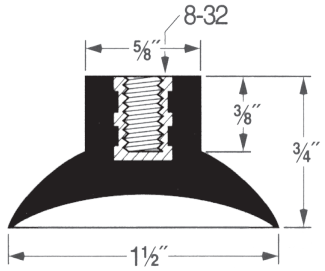

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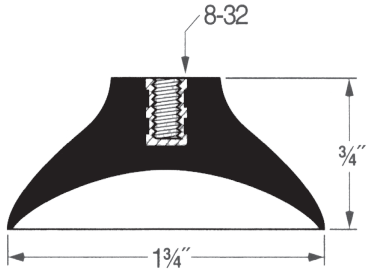

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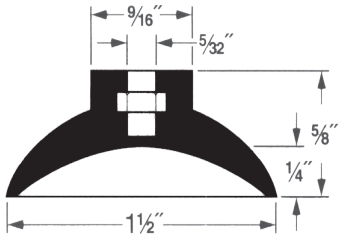

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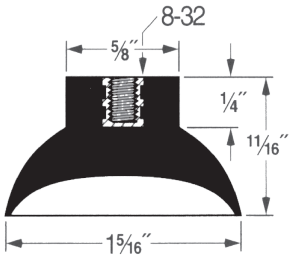

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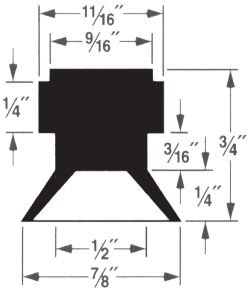

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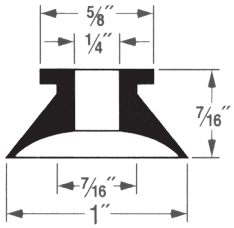

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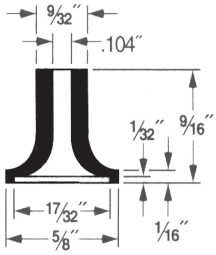

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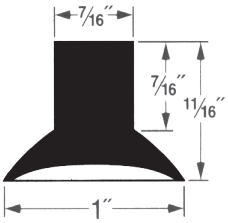

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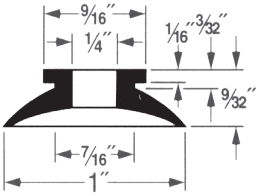

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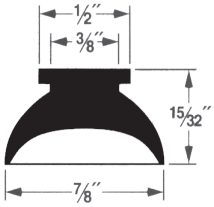

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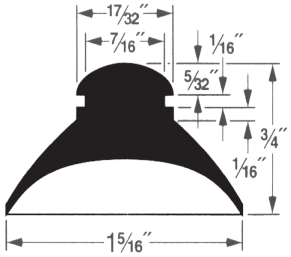

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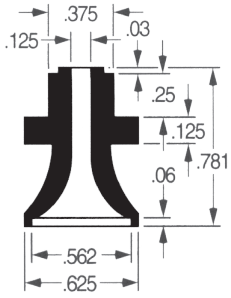

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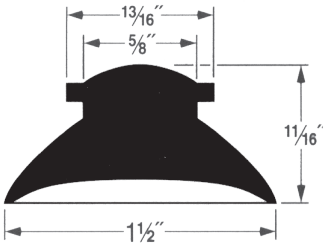

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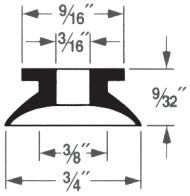

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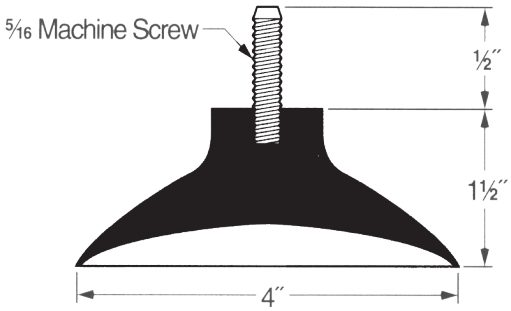
RUBBER SUCTION CUPS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

14-5107



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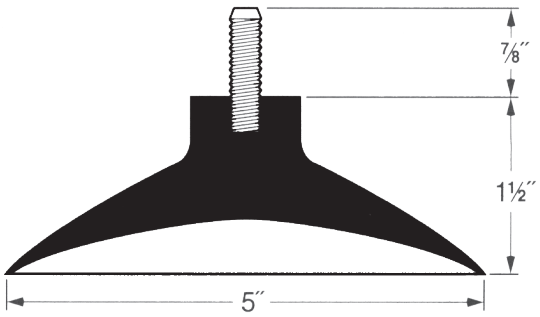

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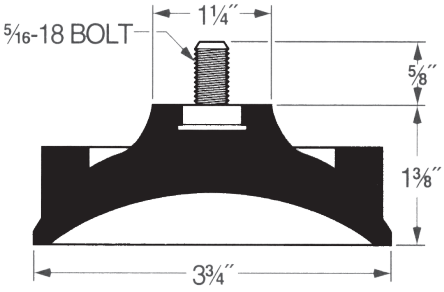

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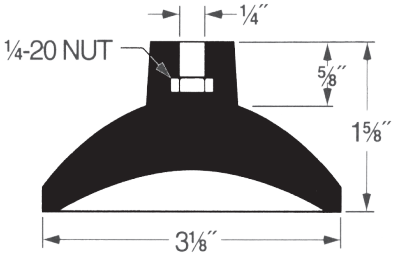

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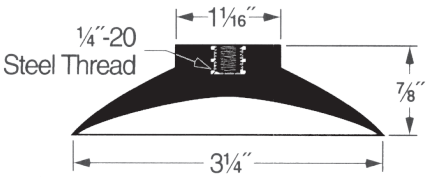

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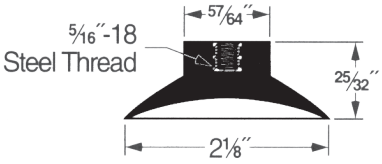
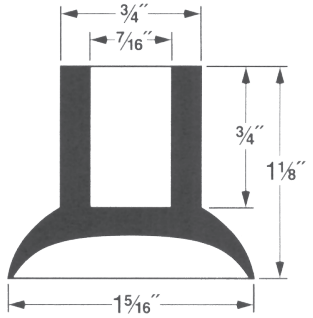


ILLUSTRATIONS BELOW NOT TO SCALE

14-1111



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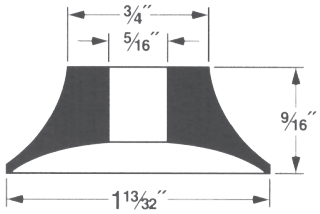

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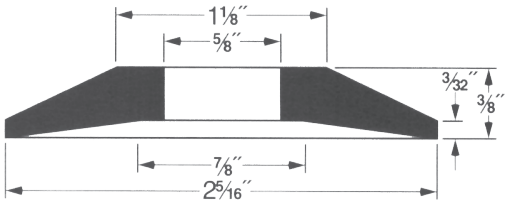

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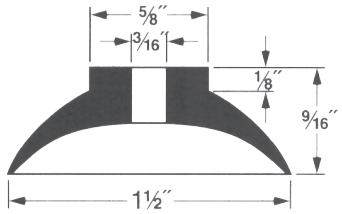

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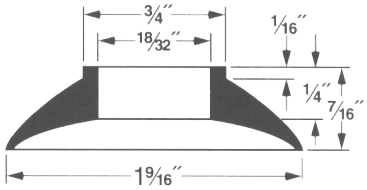

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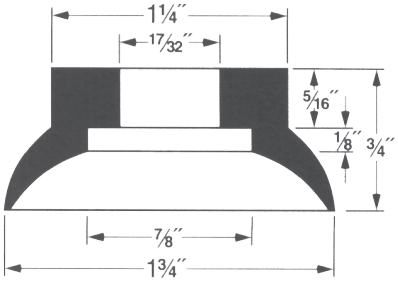

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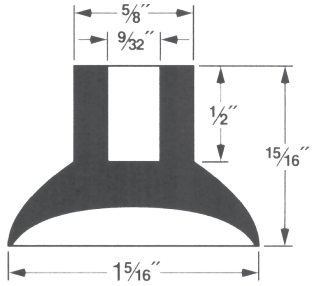

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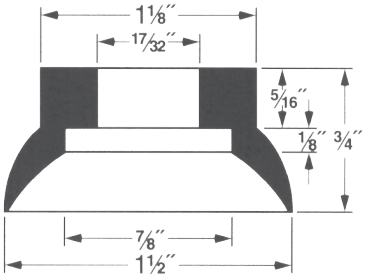

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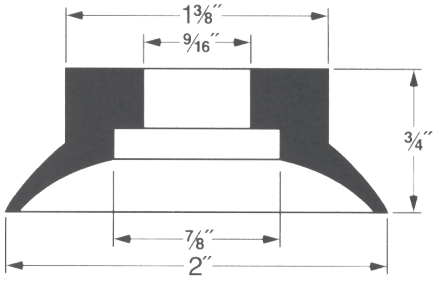
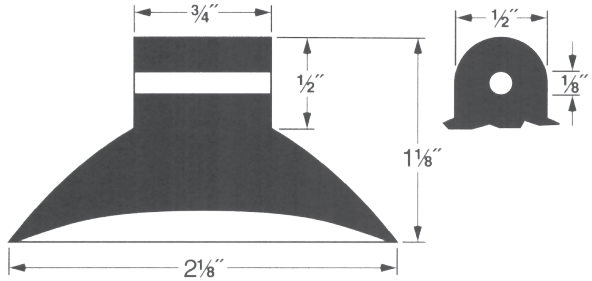
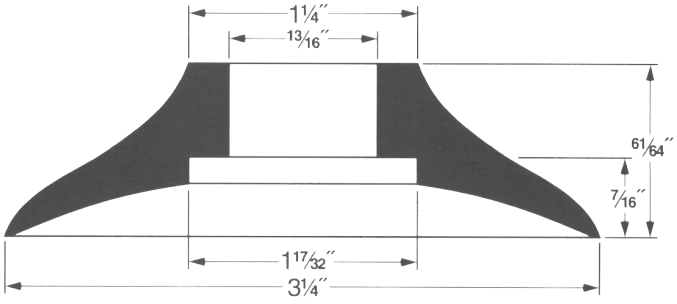


14-1121



14-1120

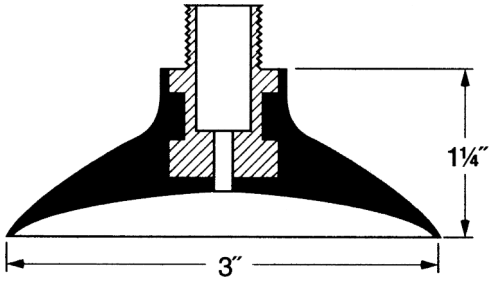


RUBBER SUCTION CUPS

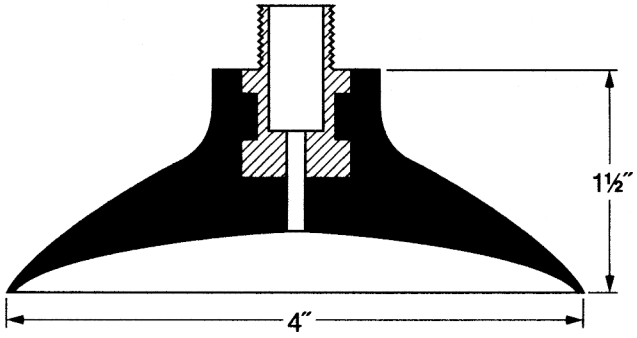
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

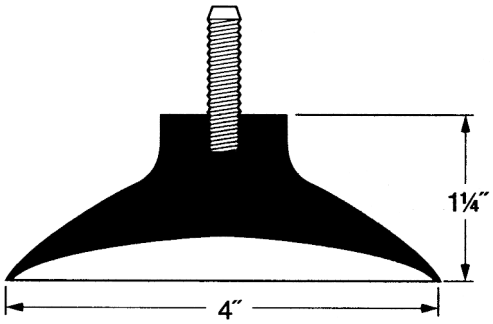
14-6668R-3



14-6668R-4



14-6668R



LONGWOOD

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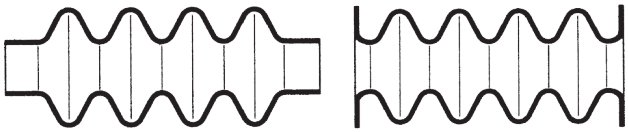
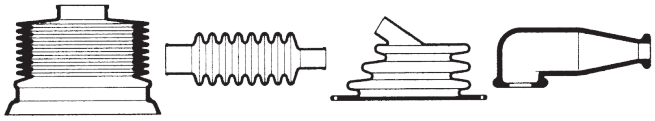
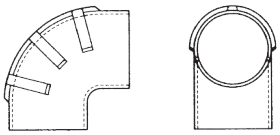
Fax to:
336-272-5619

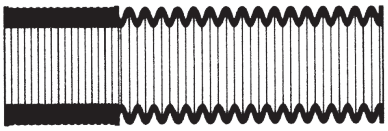
BELLOWS & BOOTS 15

Dipped Bellows - Standard Designs  Pg. 80

Rubber Boots & Bellows  Pg. 81

Air Intake Elbows  Pg. 93

Rubber Scupper Lips Pg. 94

Rubberized Fabric Boots  Pg. 96

DIPPED BELLOWS— STANDARD DESIGNS

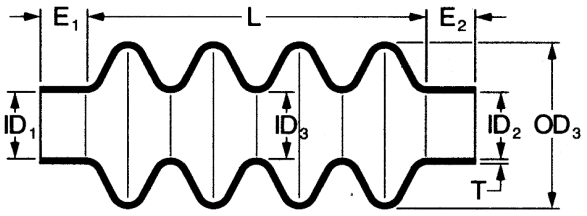
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

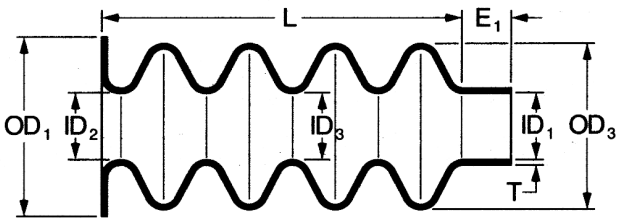
The following designs are standard. If you require a custom design, fax or mail your drawing to Longwood. Longwood can produce quality parts utilizing high grade **liquid latex, neoprene,** and **polyvinyl choloride (PVC).** These raw materials are compounded to meet customer specifications and to resist environmental conditions such as oil, low and high temperatures, water, dust, dirt, and ozone.

Standard Designs

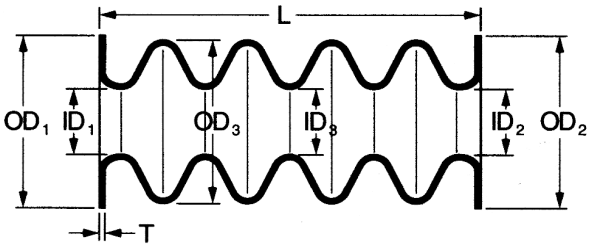
15-A



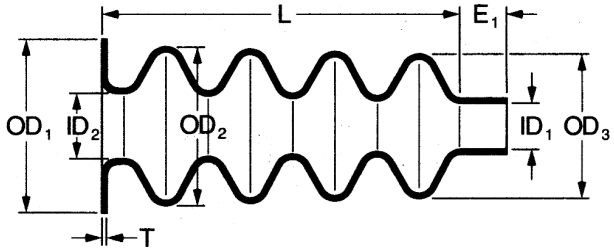
15-B



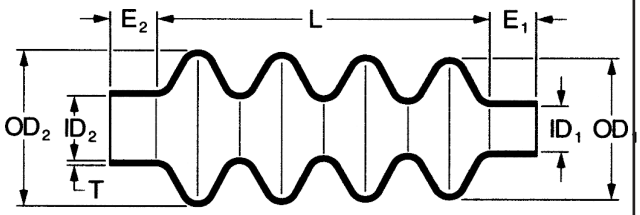
15-C



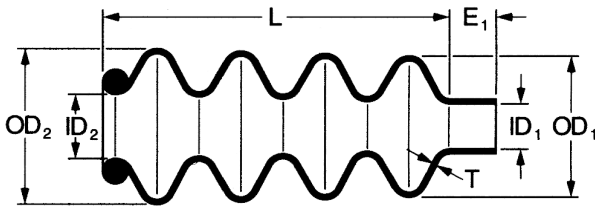
15-D



15-E



15-F



ILLUSTRATIONS BELOW NOT TO SCALE

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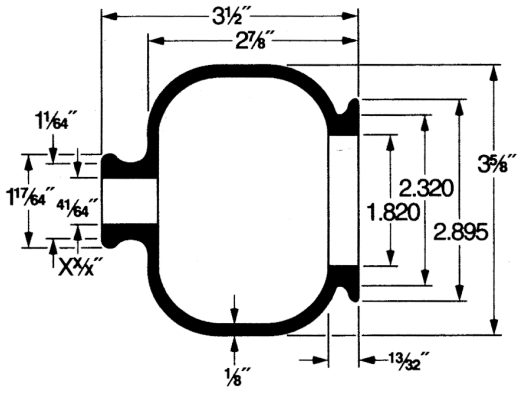
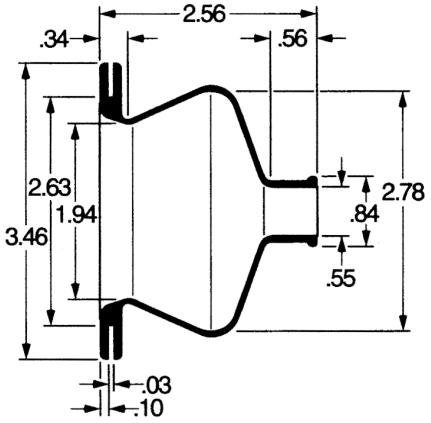


15-2999R



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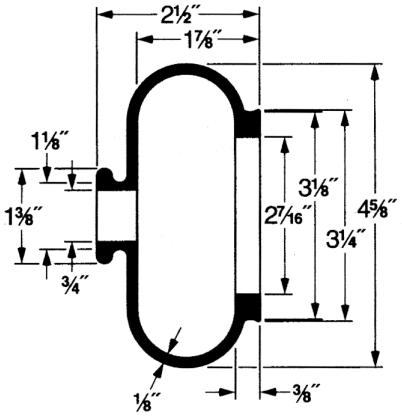
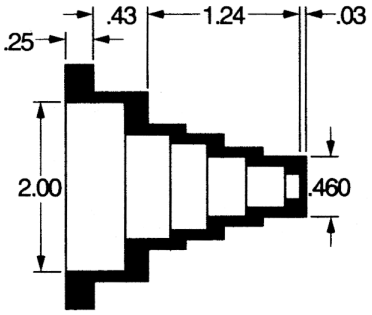
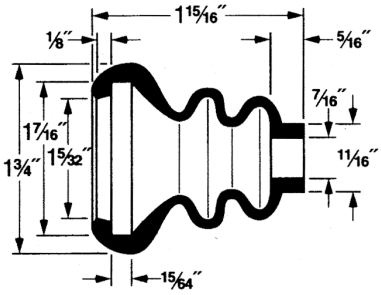


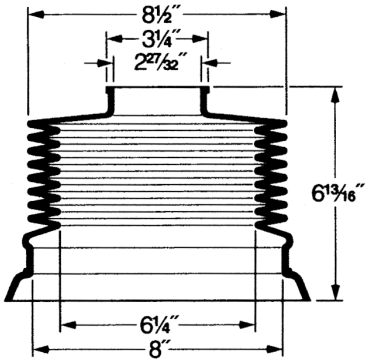
15-4049R



15-1970R



15-466R

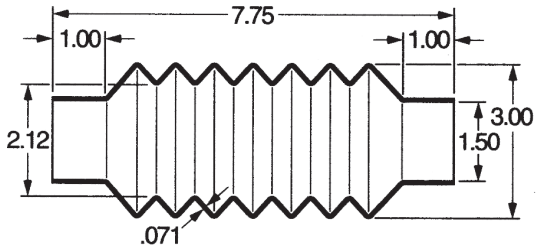


RUBBER BOOTS & BELLOWS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

15-106



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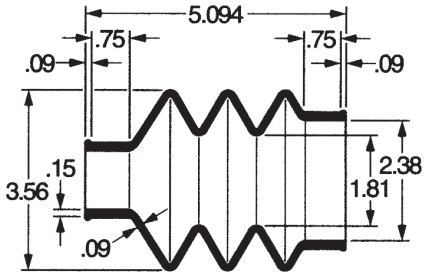
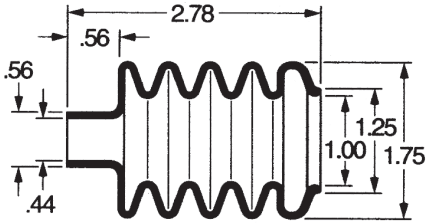
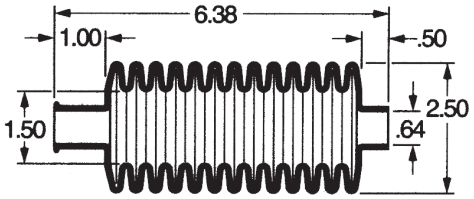


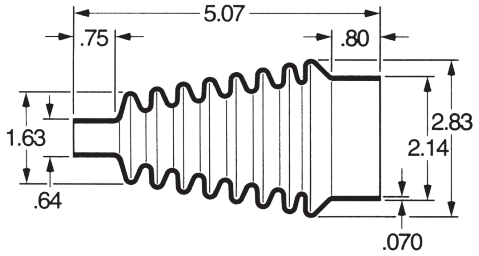
15-108



15-5747R



15-3842R



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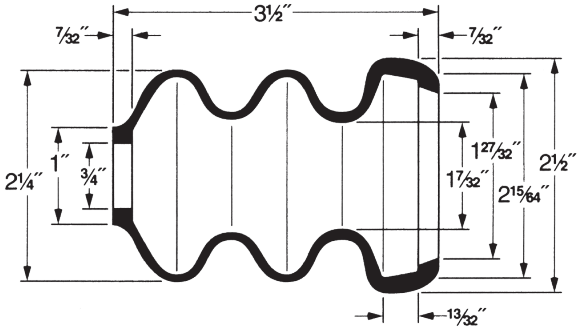
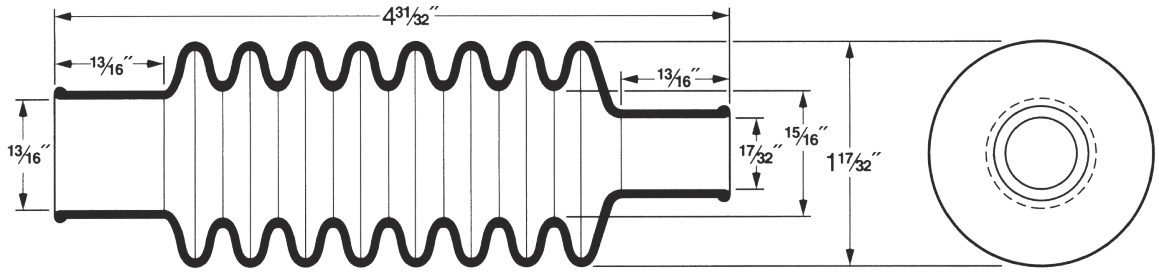
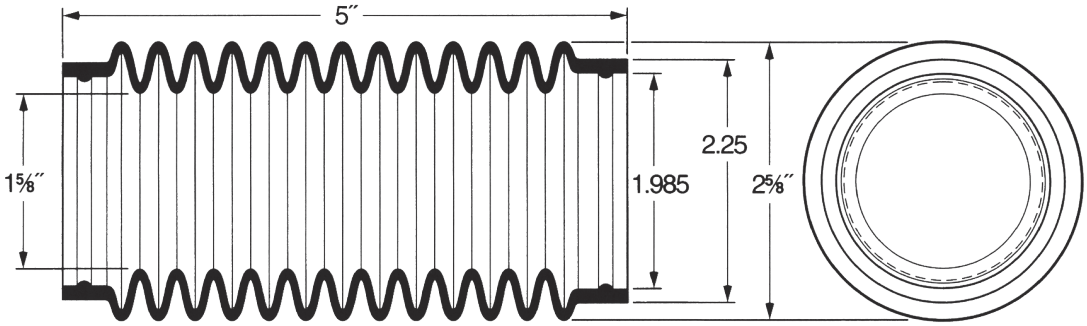


ILLUSTRATIONS BELOW NOT TO SCALE

15-1532R



15-456R



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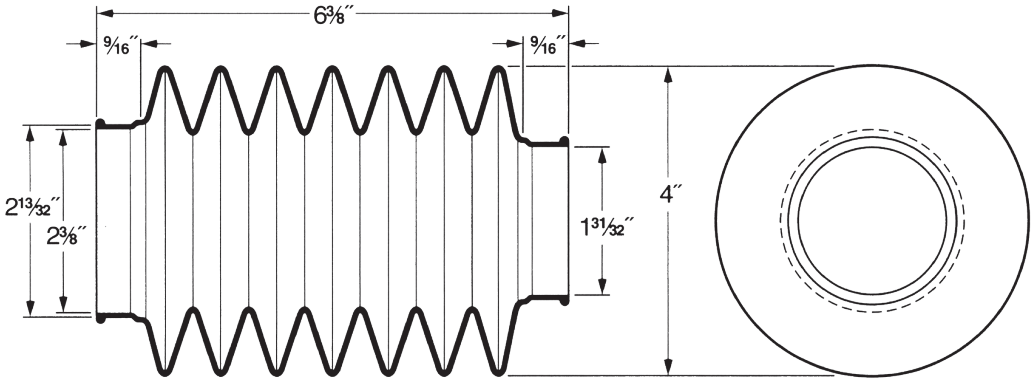
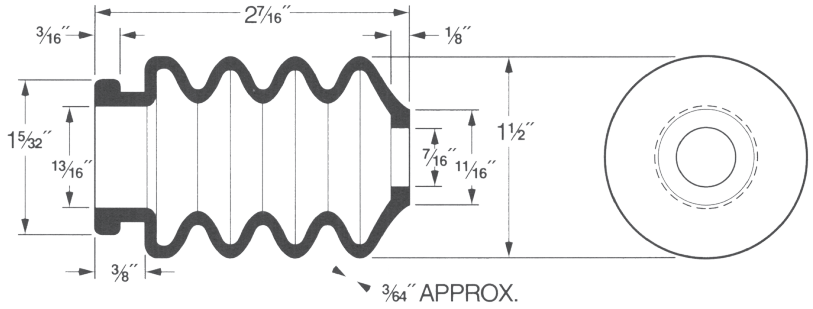


RUBBER BOOTS & BELLOWS

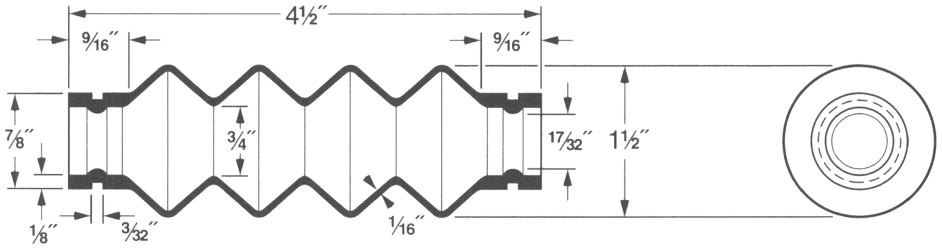
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

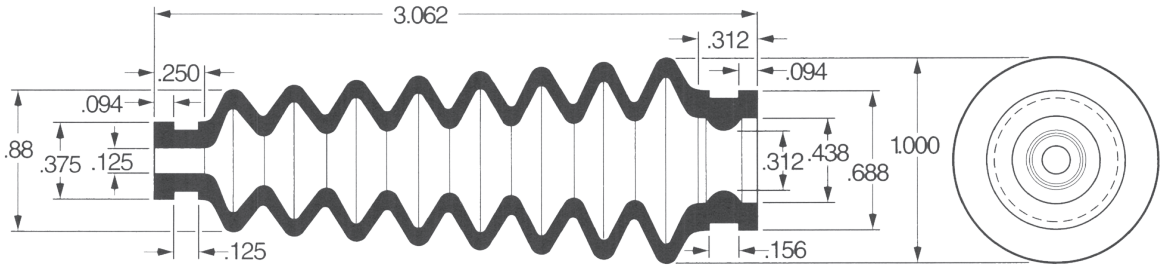
15-6665R



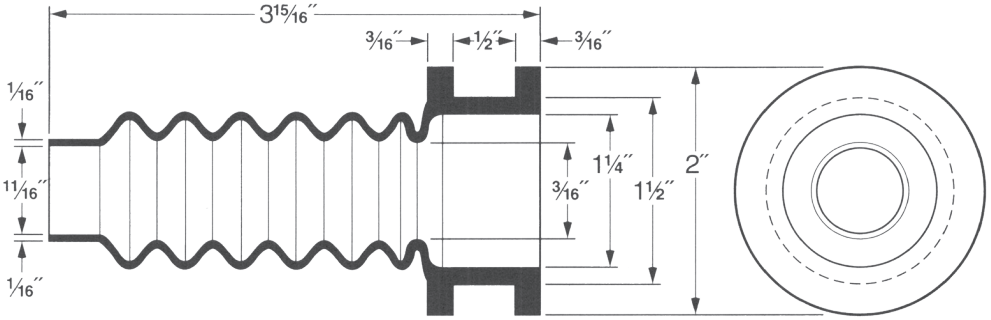
15-4626R



15-1153R

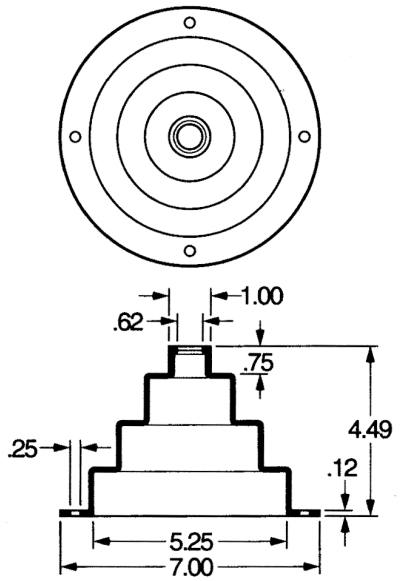


15-1551R



ILLUSTRATIONS BELOW NOT TO SCALE

15-100



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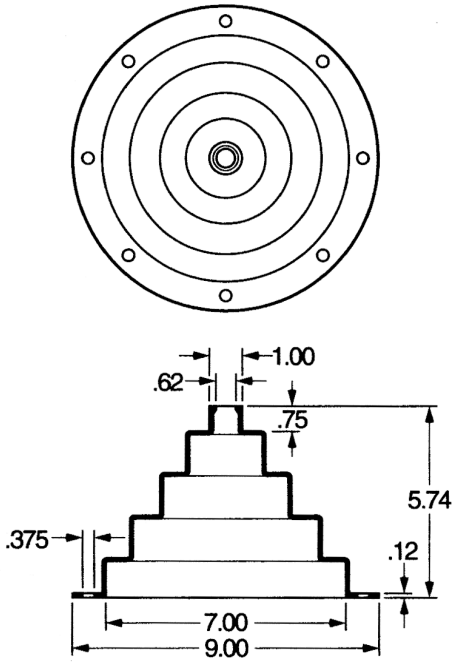

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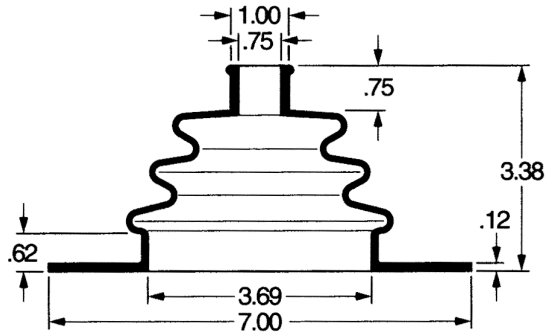

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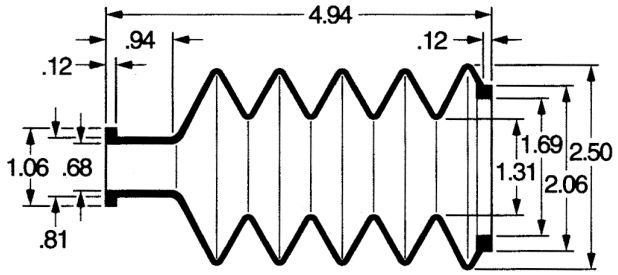

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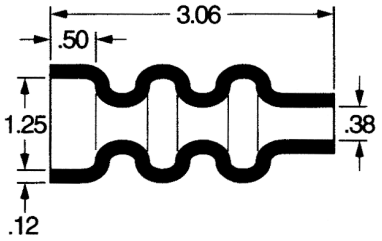
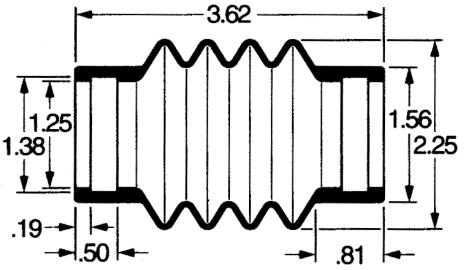


15-105

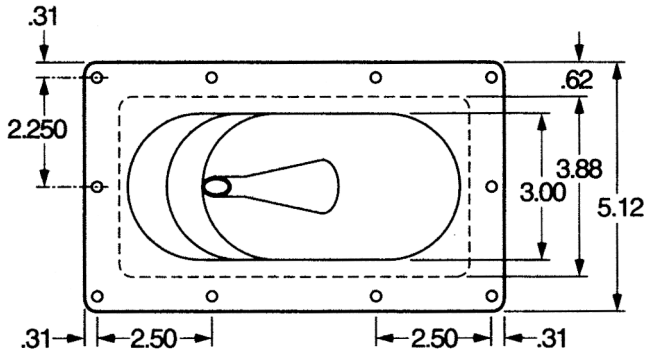


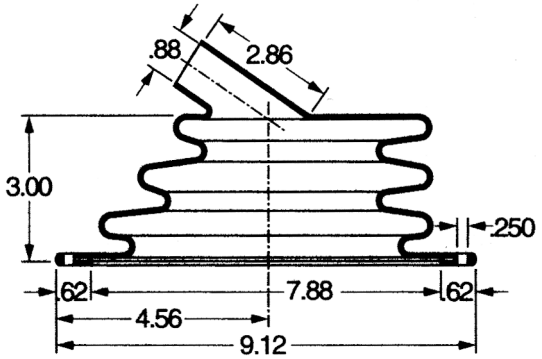
RUBBER BOOTS & BELLOWS

LONGWOOD

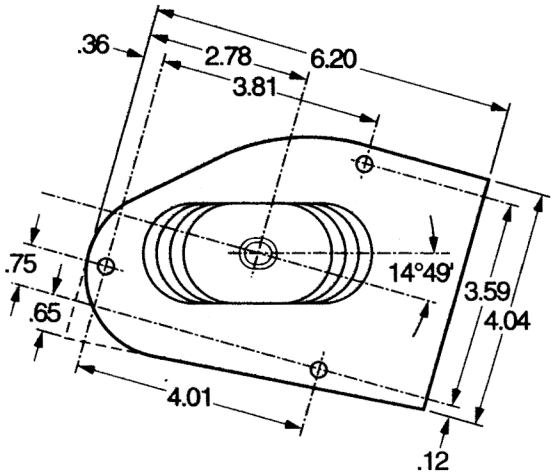
ILLUSTRATIONS BELOW NOT TO SCALE

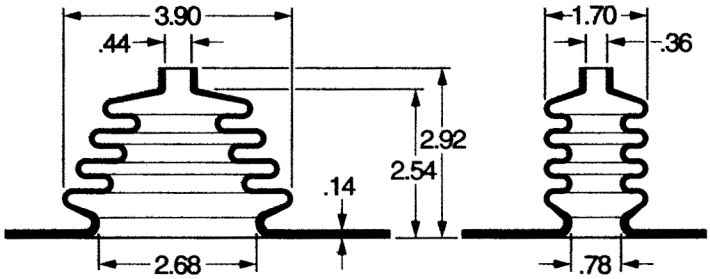
15-2173R
Shifter Boot





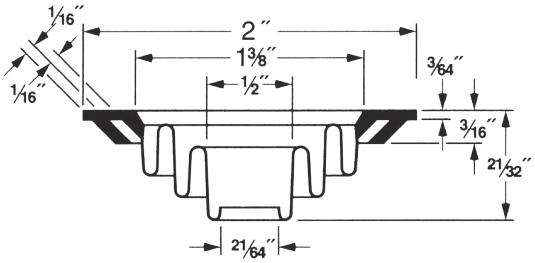
15-2250R
Shifter Boot



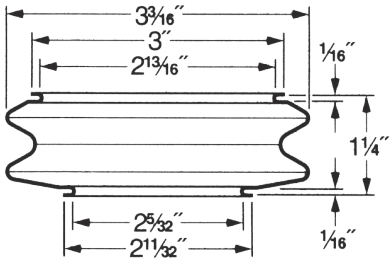


ILLUSTRATIONS BELOW NOT TO SCALE

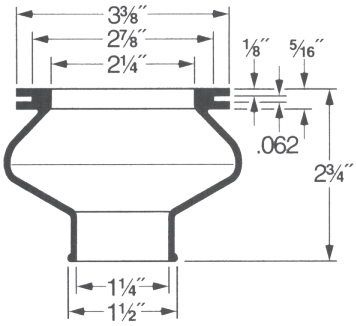
15-740R



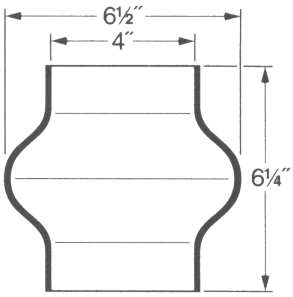
15-747R



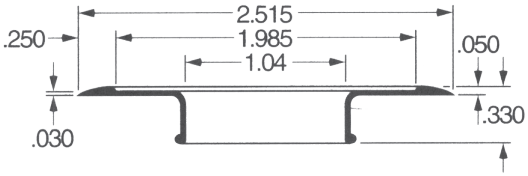
15-5648R



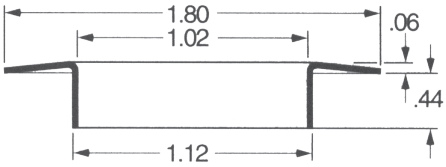
15-365R



15-422R



15-6814R

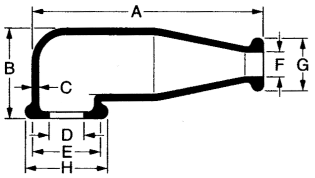


RUBBER BOOTS & BELLOWS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Electric Terminal Nipples MS25171 (Series)

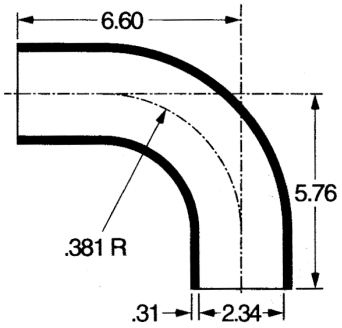


Electric Terminal Nipples

MS #	Part #	A Max.	B ±.125	C ±.005	D Dia.	E Dia.	F Dia.	G Dia	H Dia.
MS25171-1	15-1	1.38	.56	.06	.40	.63	.16	.41	.76
MS25171-1S	15-1S	1.38	.56	.06	.40	.63	.16	.41	.76
MS25171-2	15-2	2.50	1.0	.06	.56	.82	.31	.56	.95
MS25171-2S	15-2S	2.50	1.00	.06	.56	.82	.31	.56	.95
MS25171-3	15-3	2.50	1.00	.06	.56	.82	.43	.68	.95
MS25171-3S	15-3S	2.50	1.00	.06	.56	.82	.43	.68	.95
MS25171-4	15-4	2.50	1.00	.06	.56	.82	.56	.82	.95
MS25171-4S	15-4S	2.50	1.00	.06	.56	.82	.56	.82	.95

Note: The letter “S” after a number designates MIL-R-5847, silicone. The plain numbers are MIL-R-6855, synthetic rubber.

15-2392R



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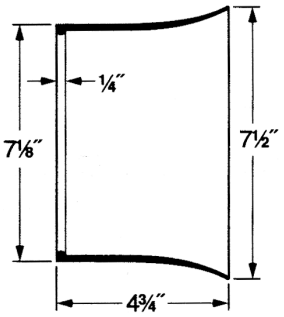
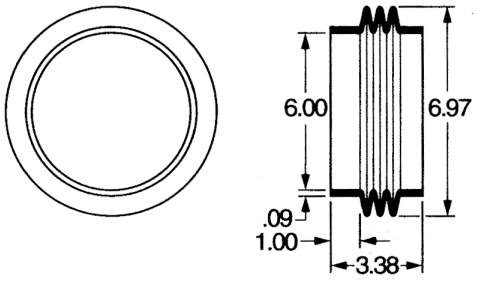
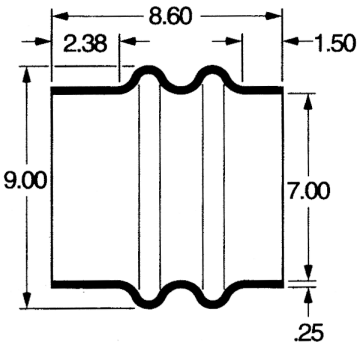


15-60



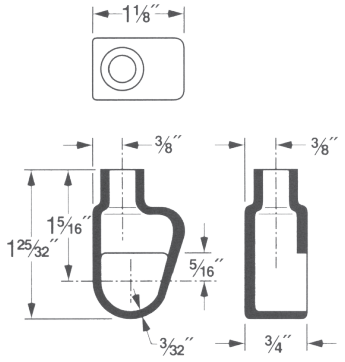
15-70



Longwood can custom-mold boots and bellows to your specifications

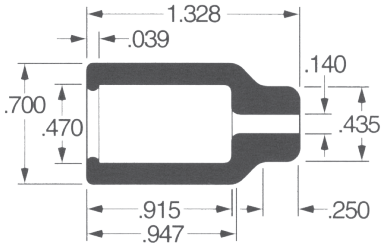
ILLUSTRATIONS BELOW NOT TO SCALE

15-20R



15-270R

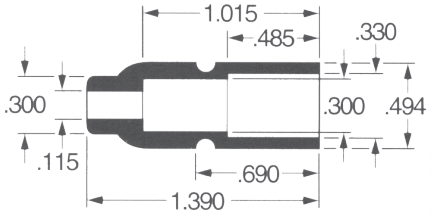
Electrical Nipple



NSN 5935-00-572-9180
361 Cavity Mold

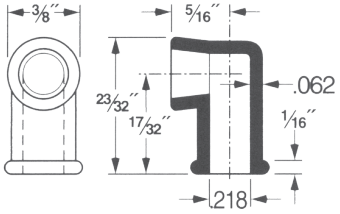
15-4423R

Electrical Nipple

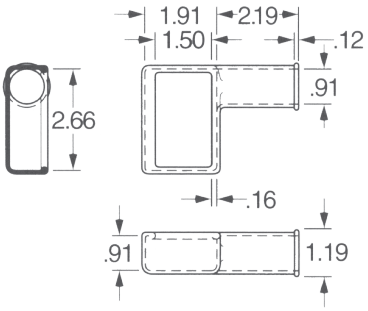


NSN 5975-00-660-5962
169 Cavity Mold

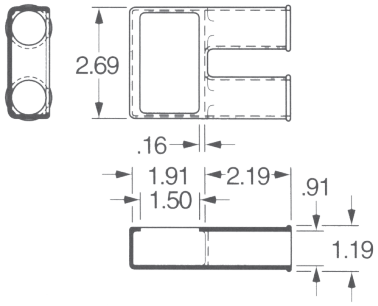
15-3651R



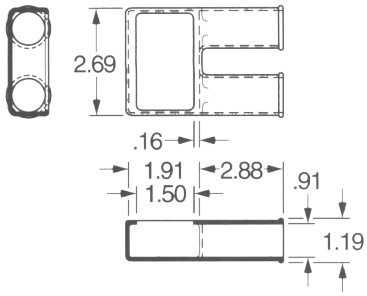
15-5982R



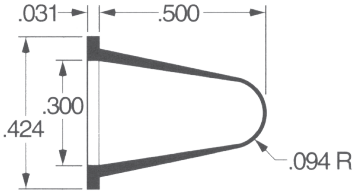
15-1998R



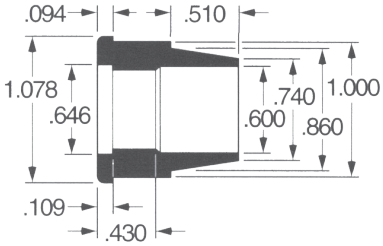
15-4724R



15-1744R



15-611R

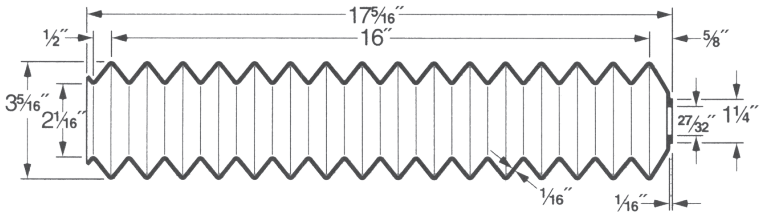


RUBBER BOOTS & BELLOWS

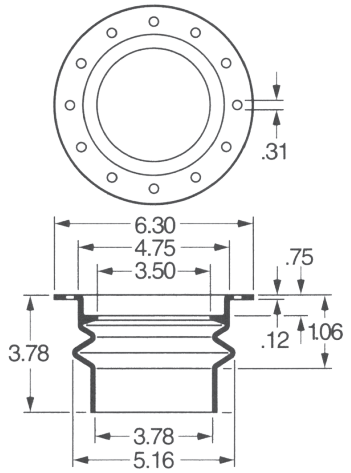
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

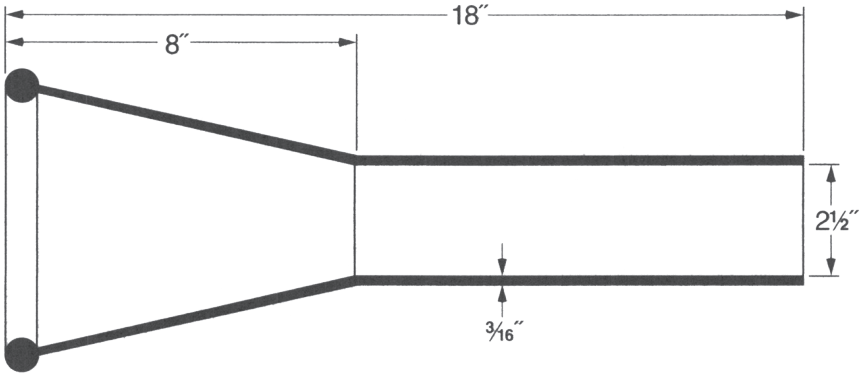
15-1485R



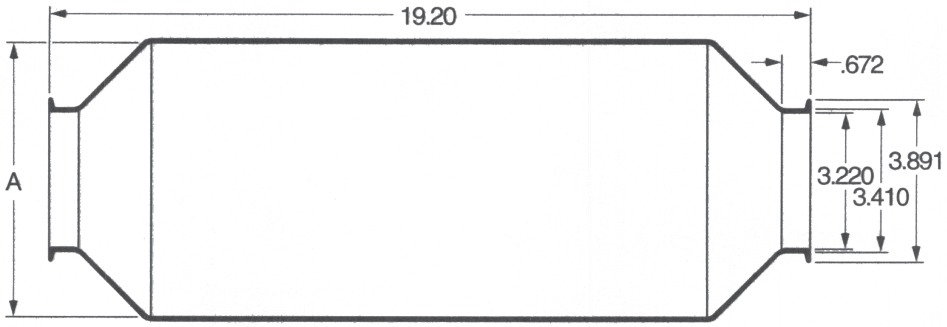
15-3346R



15-618R

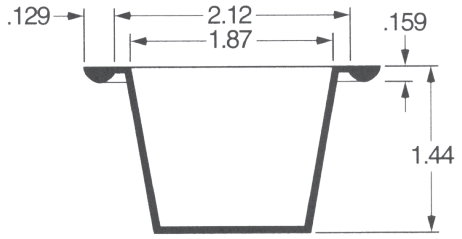


15-6637R

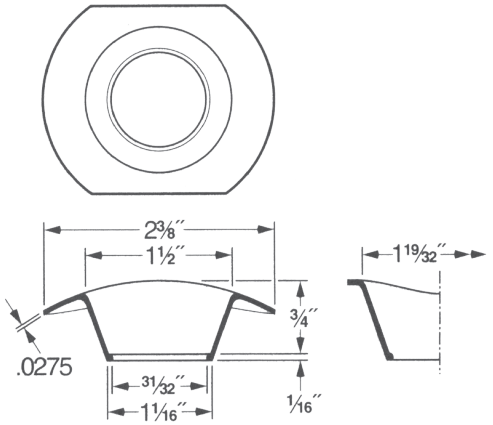


ILLUSTRATIONS BELOW NOT TO SCALE

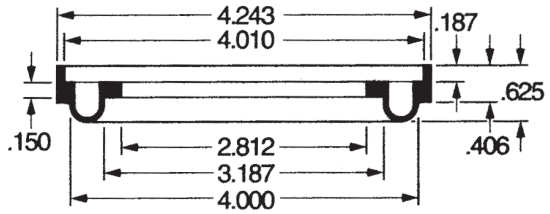
15-671R



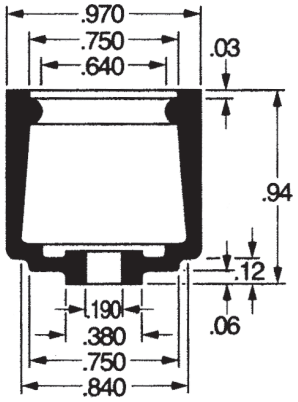
15-474R



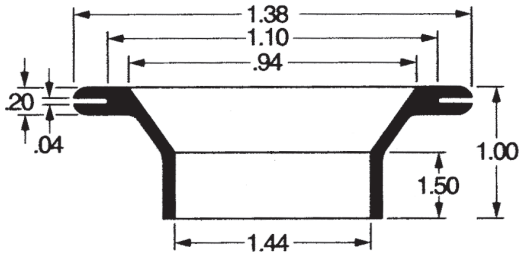
15-1267R



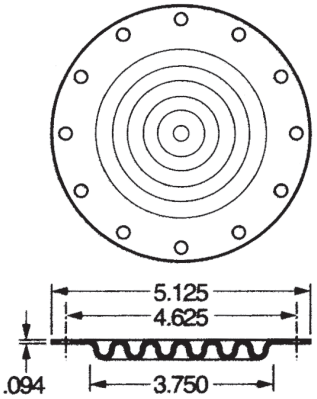
15-1173R



15-4201R



15-715R

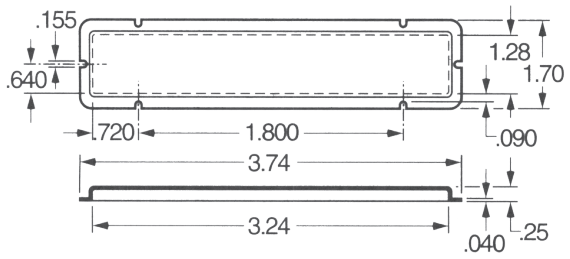


RUBBER BOOTS & BELLOWS

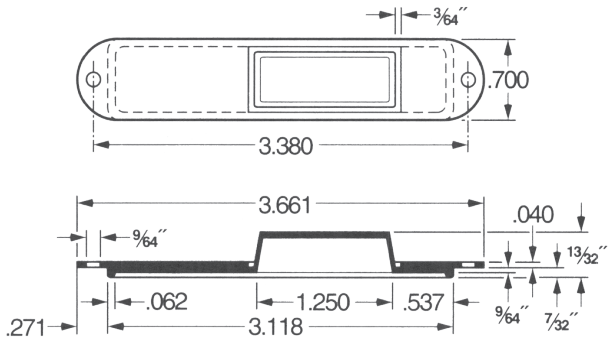
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

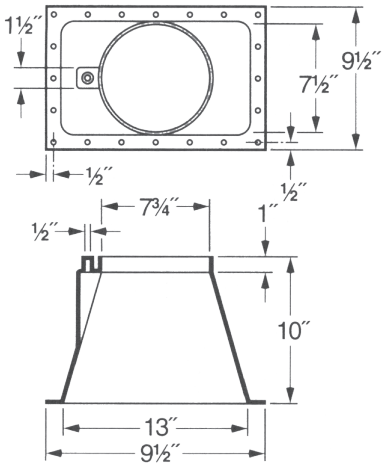
15-1947R



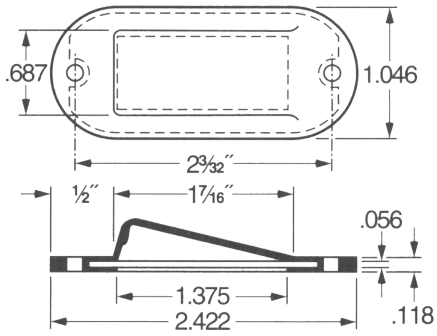
15-425R



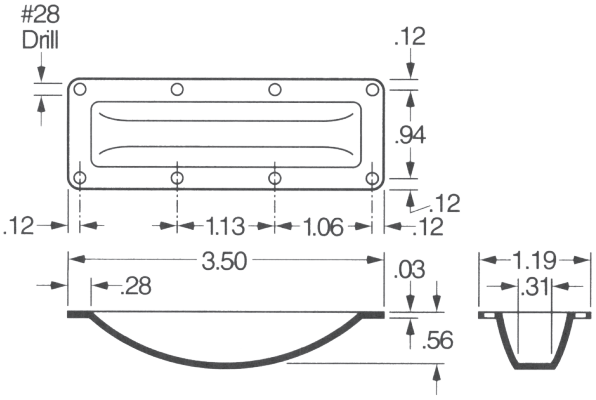
15-1369R



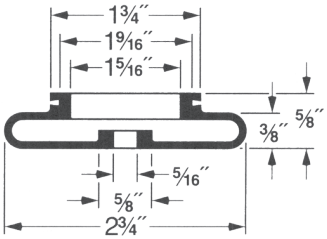
15-130R



15-3954R



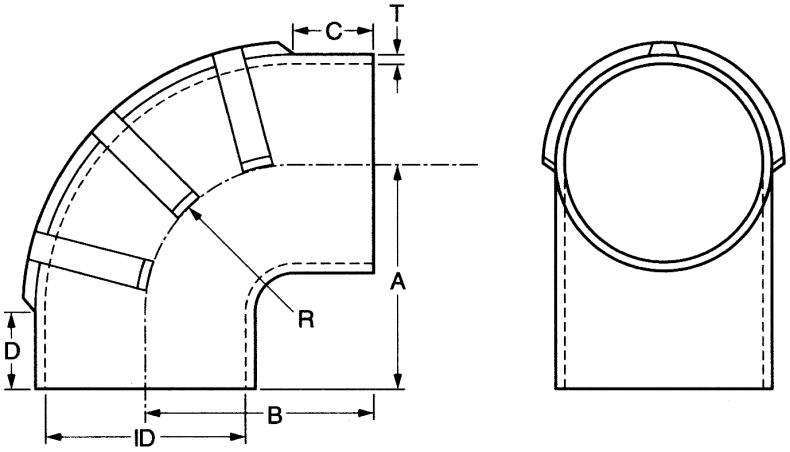
15-6104R



ILLUSTRATIONS BELOW NOT TO SCALE

AIR INTAKE ELBOWS

All sizes 5 ½″ and over are either ribbed or compounded for maximum resistance to internal vacuum. “A,” “B,” “C,” and “D” dimensions may be altered as necessary to suit your requirements.



Air Intake Elbows							
Part #	Size ID	A	B	C	D	R	T
15-7000	2	3.50	3.50	1.50	1.50	2.00	.22
15-7001	2 ¼	3.75	3.75	1.50	1.50	2.25	.22
15-7002	2 ½	4.00	4.00	1.50	1.50	2.50	.25
15-7003	3	4.75	4.75	2.00	2.00	2.75	.25
15-7004	3 ½	5.50	5.50	1.50	1.50	4.00	.25
15-7005	4	5.75	5.75	2.75	2.75	3.00	.25
15-7006	4 ½	5.50	5.50	2.00	2.00	3.50	.25
15-7007	5	5.75	5.75	2.00	2.00	3.75	.25
15-7008	5 ½	6.50	6.50	1.75	1.75	4.75	.25
15-7009	6	6.75	6.75	1.75	1.75	5.00	.25
15-7010	7	7.56	7.56	2.00	2.00	5.56	.31
15-1011	8	8.50	8.50	2.00	2.00	6.50	.37
15-7012	10	10.50	10.50	2.00	2.00	8.50	.37

Longwood can custom-mold elbows to your specifications!
Call 1-800-829-7231 — or — Fax drawings to 336-272-5619

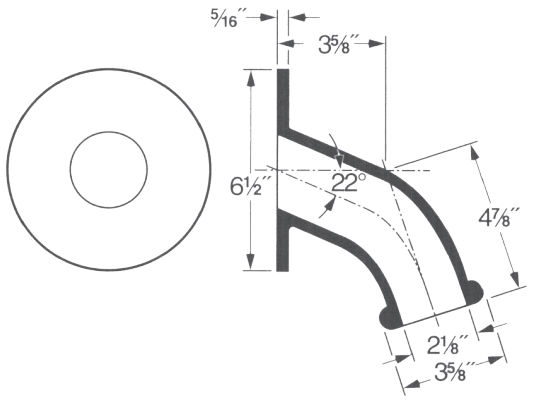
RUBBER SCUPPER LIPS

LONGWOOD

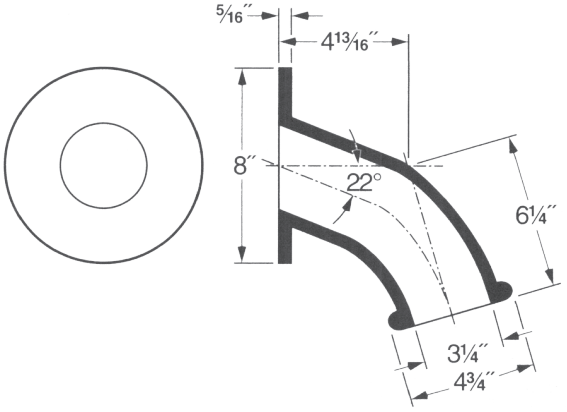
ILLUSTRATIONS BELOW NOT TO SCALE

Scupper Lips					
Part #	**Flange OD**	**Hole ID**	**NSN**	**Navy Mold**	**Comments**
15-1380R	6 ½	2 ⅛	*2040-00-371-8008	3570	
15-673R	8	3 ¼	*2040-00-371-8010	3571	Short neck
15-6035R	8	3 ¼	*2040-00-371-8011	3576	Long neck
15-1131R	9	4 ¼	*2040-00-371-8012	3572	Short neck
15-1094R	*	*	*2040-00-963-6900	1376-A	Water tri-extension
15-1240R	9	4 ¼	**2040-00-371-8013	3577	Long neck
15-1489R	10	5 ¼	**2040-00-371-8014	3573	Short neck
15-5752R	10	5 ¼	**2040-00-371-8015	3578	Long neck
15-3379R	11	6 ½	***2040-00-371-8017	3574	Short neck
15-618R	18 long	5 - 2 ½	**5975-605-7702-(72)		Funnel type
15-4369R	6 ½	*	***2040-00-371-8009	3575	Long neck
15-4610R	*	*	Tri-scupper modified	15 x 18 x 11	Tri-scupper modified

15-1380R



15-673R

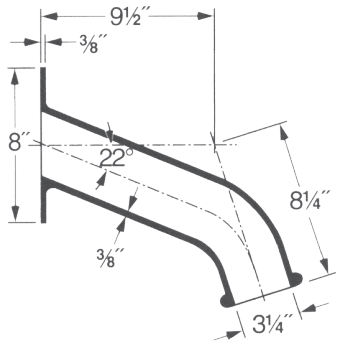


LONGWOOD

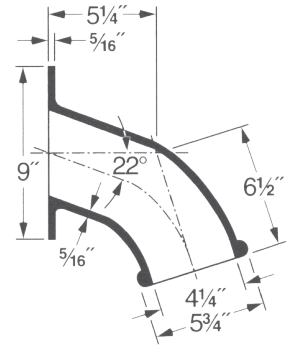
RUBBER SCUPPER LIPS

ILLUSTRATIONS BELOW NOT TO SCALE

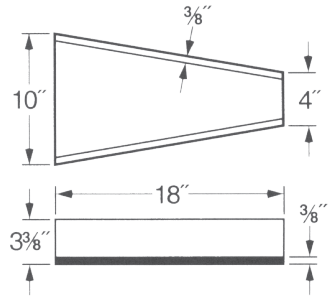
15-6035R



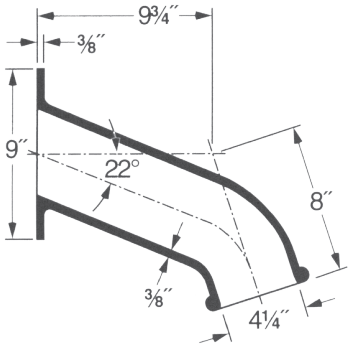
15-1131R



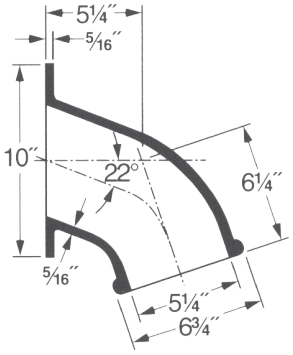
15-1094R



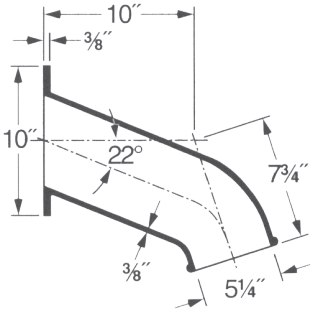
15-1240R



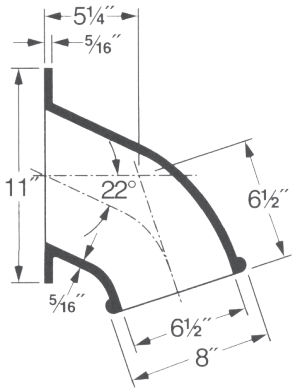
15-1489R



15-5752R

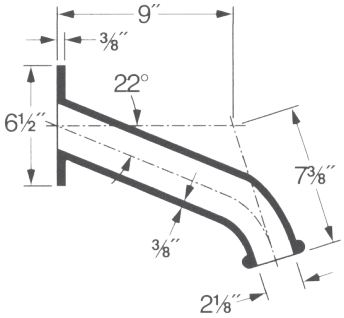


15-3379R



Longwood can custom-mold products to your specifications!

15-4369R



RUBBERIZED FABRIC BOOTS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

STOP ROD SCORING - PREVENT NICKING - EXTEND SEAL LIFE

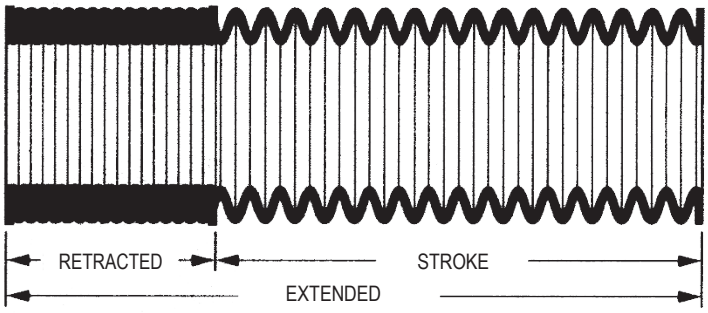
Longwood rod boots provide maximum protection against cylinder rod scoring from chips, abrasive particles and other impinging objects. Rod boots are available in 12 stock sizes without tooling charges or minimum order quantities.

Manufactured of rugged neoprene-coated nylon fabric, Longwood rod boots give millions of trouble-free operations in temperature ranges of -45˚F to 200˚F.

Rubberized Fabric Boots

Part #	Inside Diameter	Outside Diameter	Retracted Length Every 12″ Extended	Collar ID Available
15-8000	¾	3	¾	½, ⅝
15-8001	1 ⅛	3 ⅛	¾	¾, ⅞, 1
15-8002	1 ½	3 ¾	¾	1 ⅛, 1 ¼, 1 ⅜
15-8003	1 ⅞	4 ⅛	¾	1 ½, 1 ¾
15-8004	2 ⅜	4 ⅝	¾	2, 2 ¼
15-8005	2 ⅞	5 ⅛	¾	2 ½, 2 ¾
15-8006	3 ⅜	7	½	3, 3 ¼
15-8007	3 ⅞	7 ½	½	3 ½, 3 ¾
15-8008	4 ½	8 ¼	½	4, 4 ¼
15-8009	5	8 ⅜	½	4 ½, 4 ¾
15-8010	5 ⅜	9 ½	½	5, 5 ½
15-8011	7 ¼	11	½	6, 6 ½, 7

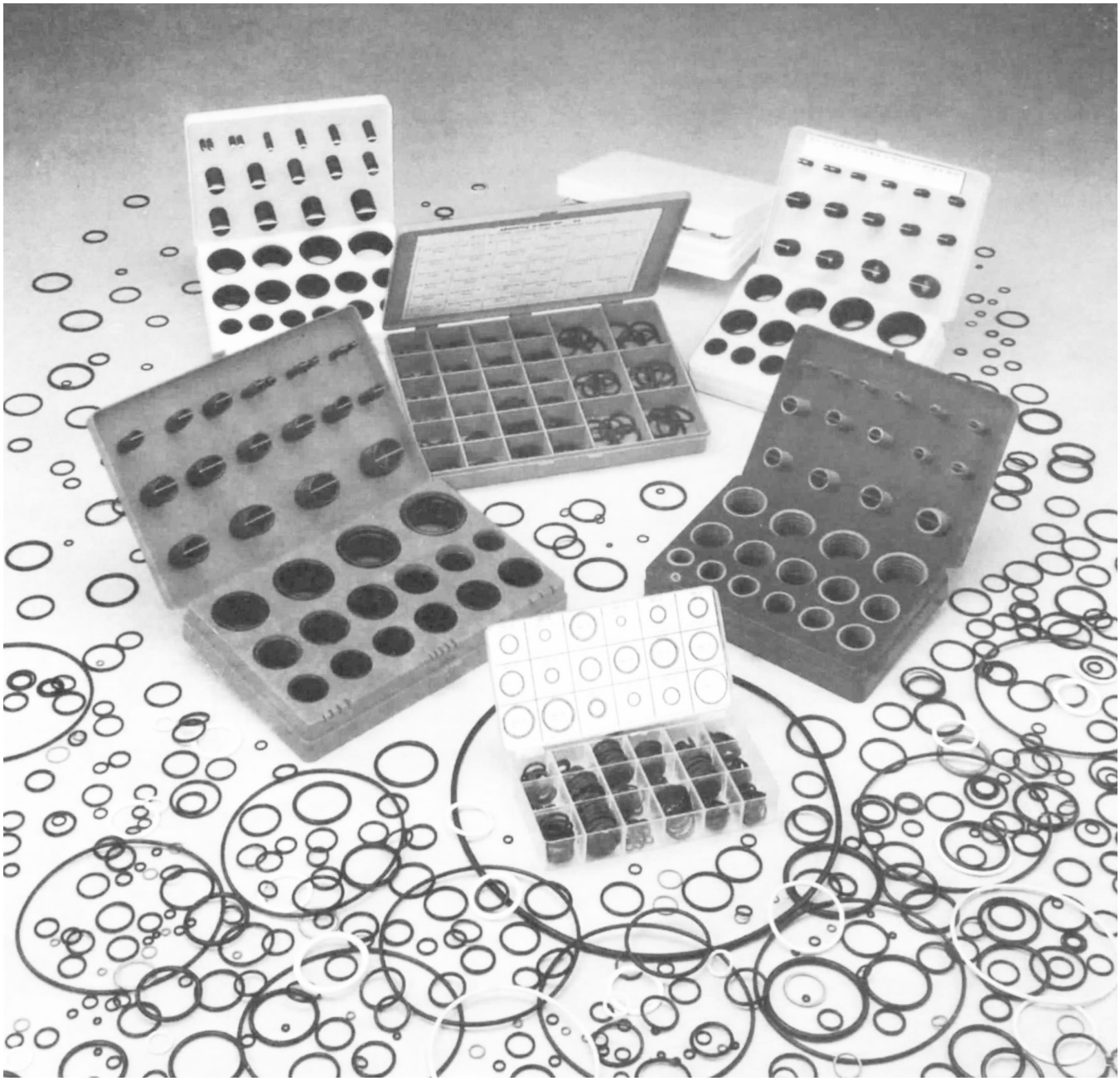
(Priced by 12″ lengths)



O-RINGS

METRIC SIZES AVAILABLE

16



O-RINGS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Military Specification References

Drawing #	Specification	Static	Dynamic	Fluid	Temperature Range °F Low	High	Elastomer	Comments
AN12395 thru 124050	AMS 7270	X	X	Aircraft fluids	-40	+302	Nitrile	For use in aircraft fuels, both piston (gasoline) and jet engines.
M 25988/1	MIL-R-25988 Class 1, Grade 70	X	X	Aircraft fuels & lubricants	-70	+392	Fluorosilicone	Blue color as required by MIL spec. Not recommended for high pressure dynamic applications.
M 25988/2	MIL-R-25988 Class 3, Grade 75	X	X	Aircraft fuels & lubricants	-70	+437	Fluorosilicone	Blue color as required by MIL spec. Higher modulus and higher temperature resistance.
M 25988/3	MIL-R-25988 Class 1, Grade 60	X	X	Aircraft fuels & lubricants	-70	+392	Fluorosilicone	Blue color as required by MIL spec. Lower durometer. For low pressure applications.
M 25988/4	MIL-R-25988 Class 1, Grade 80	X	X	Aircraft fuels & lubricants	-70	+392	Fluorosilicone	Blue color as required by MIL spec.
M 83248/1	MIL-R-83248 Class 1	X	X	Aircraft fuels & lubricants	-20	+400	Fluorocarbon	Excellent resistance to compression set.
M 83248/2	MIL-R-83248 Class 2	X	X	Aircraft fuels & lubricants	-20	+400	Fluorocarbon	Higher durometer.
M 83461/1A	MIL-P-83461	X	X	MIL-H-5606	-65	+275	Nitrile	Better dynamic performance & longer service life at 257˚F
MS 9020	AMS 7271	X		Aircraft Fuels	-58	+257	Nitrile	This drawing covers tube fitting sizes only.
MS 9021		X	X					This drawing covers all sizes except the tube fitting sizes.
MS 9068	AMS 3304	X		Dry heat & petroleum based lube oils	-85	+400	Silicone	Not recommended for high pressure dynamic applications.
MS 9385	AMS 7267	X		Dry heat & petroleum based lube oils	-85	+500	Silicone	This drawing covers tube fitting sizes only.
MS 9386		X	X					This drawing covers all sizes except the tube fitting sizes.
MS 9387	AMS 7278	X		Aircraft fuels and lubricants	-20	+400	Fluorocarbon	This drawing covers tube fitting sizes only.
MS 9388		X	X					This drawing covers all sizes except the tube fitting sizes.
MS 28775	MIL-P-25732	X	X	MIL-H-5606	-65	+275	Nitrile	MIL-H5606 is the petroleum base hydraulic fluid used in military aircraft (inactive for new designs).
MS 28900	AMS 3209	X		Ozone	-40	+212	Neoprene	For weather resistant seals (Non standard sizes).
MS 29512	MIL-P-5315	X		Aircraft fuels	-65	+158	Nitrile	This drawing covers tube fitting sizes only.
MS 29513		X	X					This drawing covers all sizes except the tube fitting sizes.
MS 29561	MIL-R-7362, Type 1	X	X	Synthetic diester jet engine lubricants (MIL-L-7808)	-65	+257	Nitrile	This drawing covers all sizes except the tube fitting sizes.
NAS 617	MIL-R-7362, Type 1	X	X	Synthetic diester jet engine lubricants (MIL-L-7808)	-65	+257	Nitrile	This drawing covers tube fitting sizes only.
NAS 1601	NAS 1613 Class 1	X	X	Phosphate ester	-65	+250	Ethylene Propylene	This drawing covers all sizes except the tube fitting sizes. Replaces NAS 1611 which is inactive for the new design.
NAS 1602	NAS 1613 Class 2	X		Hydraulic fluid (Skydrol)				This drawing covers tube fitting sizes only. Replaces NAS 1612 which is inactive for the new design.
NAS 1611	NAS 1613 Class 1	X	X	Phosphate ester	-65	+250	Ethylene Propylene	This drawing covers all sizes except the tube fitting sizes. Inactive for the new design.
NAS 1612	NAS 1613 Class 2	X		Hydraulic fluid (Skydrol)				This drawing covers tube fitting sizes only. Inactive for the new design.

Abbreviations used above: AMS—Aerospace Material Specification; AN—Army/Navy; ASTM—American Society for Testing and Materials; M—Military; MS—Military Standard; NAS—National Aerospace Standard SAE—Society of Automotive Engineers

O-RING MATERIALS

MATERIALS AND DUROMETERS AVAILABLE AS STANDARDS

BUNA-N (Nitrile) (NBR)

The standard for most general applications: petroleum-base lubricants, hydraulic oils, gasoline, fuels, alcohol, LP gasses, water, and many other media.

Temperature Range: -65 to +300°F

NEOPRENE (Chloroprene) (CR)

Recommended for refrigeration freon gases, carbon dioxide gases, chlorine, ozone, sunlight exposure, and for use as drive belts. F.D.A. - approved for food and beverages. Odorless, tasteless, and non-toxic.

Temperature Range: -80 to +260°F

ETHYLENE-PROPYLENE (EPDM)

For hot water, steam, acids, alcohols, alkalis, keytones, phosphate esters, brake fluids, drive belts, and exposure to oxygen, ozone, and weathering.

Temperature Range: -67 to +302°F

FLUOROCARBON (Viton) (Fluorel)

High-temperature toughness, stability, and compatibility with a wide range of fluid and chemical types, including acids, oils, fuels, solvents, and gasses.

Temperature Range: -65 to +500°F

SILICONE

Compatible with a variety of fluids, air, oxygen, ozone, and other media for extremes of low and high temperature applications.

Temperature Range: -85 to +500°F

FLUOROSILICONE

Recommended where extreme temperature properties are required. For petroleum oils, fuels, and lubricants; synthetic ester and diester lubricants.

Temperature Range: -112 to +520°F

CAST POLYURETHANE

Extremely high tensile abrasion resistance with elongation that allows easy installation. Highly recommended for cylinder design for a wide variety of hydraulic fluids.

Temperature Range: -65 to +225°F

IN ADDITION...

O-Rings are also available in all rubber elastomers, synthetic or natural, including:

•Hytrel •Teflon (TFE)
•Natural S.B.R.
(G.R.S.—government rubber-styrene)
•Buna S
•Butyl Hydrin Hypolon Thiokol-Polyrulfide
•Others now under research and development

Back-up Rings available in Teflon, Urethane, Nitrile, and Hytrel

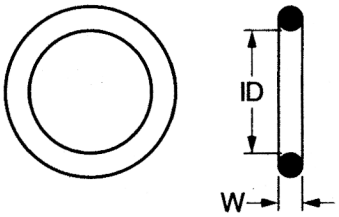
STANDARD INDUSTRIAL O-RING GROOVE DIMENSIONS

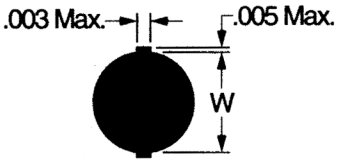
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

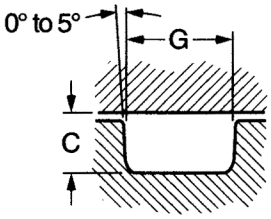
Standard Industrial O-Ring Groove Dimensions

O-Ring AS 568 Sizes	W O-Ring Cross Section	C Gland Depth	Squeeze Inches	Squeeze %	D Diametrical Clear. Max.	G Groove Width: No Backup Rings	G Groove Width: One Backup Ring	G Groove Width: Two Backup Rings	Groove Radius	Eccent. Max.
006–050	.070±.003	.055–.057	.010–.018	15–25	.004	.090	.145	.203	.005–.015	.002
102–178	.103±.003	.087–.090	.010–.019	10–18	.005	.140	.180	.244	.005–.020	.003
201–284	.139±.004	.119–.123	.012–.024	9–17	.006	.180	.217	.296	.005–.030	.004
309–395	.210±.005	.183–.188	.017–.032	8.5–15	.006	.280	.333	.423	.005–.050	.006
425–475	.275±.006	.234–.240	.029–.047	10.5–17	.007	.370	.435	.574	.005–.060	.008

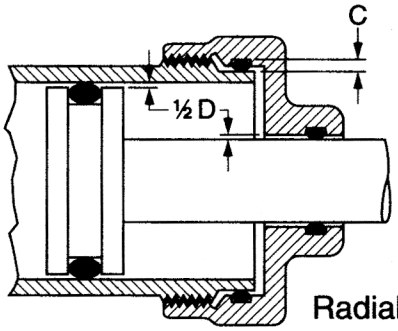




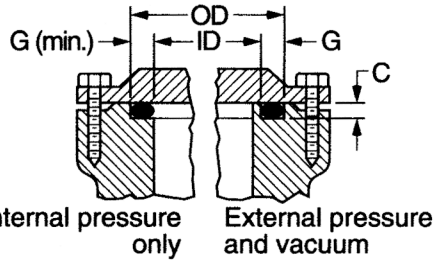
Enlarged Section



Groove Detail



Radial Squeeze Seals



Axial Squeeze Static Seals

O-rings are used primarily as seals, but they are also used in many applications where sealing is not their purpose, such as:

- Drive belts for tape recorders
- Radar—used in waveguide flanges
- Sonar—used in transducers
- Medical equipment—heart/lung/kidney machines
- Plumbing equipment
- Pipelines—fluid and gas
- Toy manufacturers—dolls, airplanes, games, etc.
- Marine and underwater devices
- Dispensing equipment—water, soft drinks, etc.
- Diesel engines
- Air conditioning units
- Vacuum equipment
- Space vehicles
- Butane and propane equipment
- Swimming pool equipment
- Velocity meters and accelerometers
- Gauges
- Fuel injection equipment
- Gas equipment—oxygen, helium, nitrogen, etc.
- Oil field equipment—oil tools, pumps, etc.
- Nuclear power generation—reactors
- Power transmission equipment
- Water purification equipment

NOTE: Tolerances may vary depending on material

O-Rings A5-568 Sizes					
	Nominal Size			Actual Size	
Part #	ID	OD	W	ID	W
16-001	1/32	3/32	1/32	.029±.003	.040±.003
16-002	3/64	9/64	3/64	.042±.003	.050±.003
16-003	1/16	3/16	1/16	.056±.003	.060±.003
16-004	5/64	13/64	1/16	.070±.003	.070±.003
16-005	3/32	7/32	1/16	.101±.005	.070±.003
16-006	1/8	1/4	1/16	.114±.005	.070±.003
16-007	5/32	9/32	1/16	.145±.005	.070±.003
16-008	3/16	5/16	1/16	.176±.005	.070±.003
16-009	7/32	11/32	1/16	.208±.005	.070±.003
16-010	1/4	3/8	1/16	.239±.005	.070±.003
16-011	5/16	7/16	1/16	.301±.005	.070±.003
16-012	3/8	1/2	1/16	.364±.005	.070±.003
16-013	7/16	9/16	1/16	.426±.005	.070±.003
16-014	1/2	5/8	1/16	.489±.005	.070±.003
16-015	9/16	11/16	1/16	.551±.005	.070±.003
16-016	5/8	3/4	1/16	.614±.005	.070±.003
16-017	11/16	13/16	1/16	.676±.005	.070±.003
16-018	3/4	7/8	1/16	.739±.005	.070±.003
16-019	13/16	15/16	1/16	.801±.005	.070±.003
16-020	7/8	1	1/16	.864±.006	.070±.003
16-021	15/16	1 1/16	1/16	.926±.006	.070±.003
16-022	1	1 1/8	1/16	.989±.006	.070±.003
16-023	1 1/16	1 3/16	1/16	1.051±.006	.070±.003
16-024	1 1/8	1 1/4	1/16	1.114±.006	.070±.003
16-025	1 3/16	1 5/16	1/16	1.176±.006	.070±.003
16-026	1 1/4	1 3/8	1/16	1.239±.006	.070±.003
16-027	1 5/16	1 7/16	1/16	1.301±.006	.070±.003
16-028	1 3/8	1 1/2	1/16	1.364±.006	.070±.003
16-029	1 1/2	1 5/8	1/16	1.489±.010	.070±.003
16-030	1 5/8	1 3/4	1/16	1.614±.010	.070±.003
16-031	1 3/4	1 7/8	1/16	1.739±.010	.070±.003
16-032	1 7/8	2	1/16	1.864±.010	.070±.003
16-033	2	2 1/8	1/16	1.989±.010	.070±.003
16-034	2 1/8	2 1/4	1/16	2.114±.010	.070±.003
16-035	2 1/4	2 3/8	1/16	2.239±.010	.070±.003
16-036	2 3/8	2 1/2	1/16	2.364±.010	.070±.003
16-037	2 1/2	2 5/8	1/16	2.489±.010	.070±.003
16-038	2 5/8	2 3/4	1/16	2.614±.010	.070±.003
16-039	2 3/4	2 7/8	1/16	2.739±.015	.070±.003
16-040	2 7/8	3	1/16	2.864±.015	.070±.003
16-041	3	3 1/8	1/16	2.989±.015	.070±.003
16-042	3 1/4	3 3/8	1/16	3.239±.015	.070±.003
16-043	3 1/2	3 5/8	1/16	3.489±.015	.070±.003

O-Rings A5-568 Sizes					
	Nominal Size			Actual Size	
Part #	ID	OD	W	ID	W
16-044	3 3/4	3 7/8	1/16	3.739±.015	.070±.003
16-045	4	4 1/8	1/16	3.989±.015	.070±.003
16-046	4 1/4	4 3/8	1/16	4.239±.015	.070±.003
16-047	4 1/2	4 5/8	1/16	4.489±.015	.070±.003
16-048	4 3/4	4 7/8	1/16	4.739±.015	.070±.003
16-049	5	5 1/8	1/16	4.989±.023	.070±.003
16-050	5 1/4	5 3/8	1/16	5.239±.023	.103±.003
16-110	3/8	9/16	3/32	.362±.005	.103±.003
16-111	7/16	5/8	3/32	.424±.005	.103±.003
16-112	1/2	11/16	3/32	.487±.005	.103±.003
16-113	9/16	3/4	3/32	.549±.005	.103±.003
16-114	5/8	13/16	3/32	.612±.005	.103±.003
16-115	11/16	7/8	3/32	.674±.005	.103±.003
16-116	3/4	15/16	3/32	.737±.005	.103±.003
16-117	13/16	1	3/32	.799±.006	.103±.003
16-118	7/8	1 1/16	3/32	.862±.006	.103±.003
16-119	15/16	1 1/8	3/32	.924±.006	.103±.003
16-120	1	1 3/16	3/32	.987±.006	.103±.003
16-121	1 1/16	1 1/4	3/32	1.049±.006	.103±.003
16-122	1 1/8	1 5/16	3/32	1.112±.006	.103±.003
16-123	1 3/16	1 3/8	3/32	1.174±.006	.103±.003
16-124	1 1/4	1 7/16	3/32	1.237±.006	.103±.003
16-125	1 5/16	1 1/2	3/32	1.299±.006	.103±.003
16-126	1 3/8	1 9/16	3/32	1.362±.006	.103±.003
16-127	1 7/16	1 5/8	3/32	1.424±.006	.103±.003
16-128	1 1/2	1 11/16	3/32	1.487±.006	.103±.003
16-129	1 9/16	1 3/4	3/32	1.549±.010	.103±.003
16-130	1 5/8	1 13/16	3/32	1.612±.010	.103±.003
16-131	1 11/16	1 7/8	3/32	1.674±.010	.103±.003
16-132	1 3/4	1 15/16	3/32	1.737±.010	.103±.003
16-133	1 13/16	2	3/32	1.799±.010	.103±.003
16-134	1 7/8	2 1/16	3/32	1.862±.010	.103±.003
16-135	1 15/16	2 1/8	3/32	1.925±.010	.103±.003
16-136	2	2 3/16	3/32	1.987±.010	.103±.003
16-137	2 1/16	2 1/4	3/32	2.050±.010	.103±.003
16-138	2 1/8	2 5/16	3/32	2.112±.010	.103±.003
16-139	2 3/16	2 3/8	3/32	2.175±.010	.103±.003
16-140	2 1/4	2 7/16	3/32	2.237±.010	.103±.003
16-141	2 5/16	2 1/2	3/32	2.300±.010	.103±.003
16-142	2 3/8	2 9/16	3/32	2.362±.010	.103±.003
16-143	2 7/16	2 5/8	3/32	2.425±.010	.103±.003
16-144	2 1/2	2 11/16	3/32	2.487±.010	.103±.003
16-145	2 9/16	2 3/4	3/32	2.550±.010	.103±.003

O-RINGS

LONGWOOD

NOTE: Tolerances may vary depending on material

O-Rings A5-568 Sizes					
	Nominal Size			Actual Size	
Part #	ID	OD	W	ID	W
16-146	2 5/8	2 13/16	3/32	2.612±.010	.103±.003
16-147	2 11/16	2 7/8	3/32	2.675±.015	.103±.003
16-148	2 3/4	2 15/16	3/32	2.737±.015	.103±.003
16-149	2 13/16	3	3/32	2.800±.015	.103±.003
16-150	2 7/8	3 1/16	3/32	2.862±.015	.103±.003
16-151	3	3 3/16	3/32	2.987±.015	.103±.003
16-152	3 1/4	3 7/16	3/32	3.237±.015	.103±.003
16-153	3 1/2	3 11/16	3/32	3.487±.015	.103±.003
16-154	3 3/4	3 15/16	3/32	3.737±.015	.103±.003
16-155	4	4 3/16	3/32	3.987±.015	.103±.003
16-156	4 1/4	4 7/16	3/32	4.237±.015	.103±.003
16-157	4 1/2	4 11/16	3/32	4.487±.015	.103±.003
16-158	4 3/4	4 15/16	3/32	4.737±.015	.103±.003
16-159	5	5 3/16	3/32	4.987±.015	.103±.003
16-160	5 1/4	5 7/16	3/32	5.237±.023	.103±.003
16-161	5 1/2	5 11/16	3/32	5.487±.023	.103±.003
16-162	5 3/4	5 15/16	3/32	5.737±.023	.103±.003
16-163	6	6 3/16	3/32	5.987±.023	.103±.003
16-164	6 1/4	6 7/16	3/32	6.237±.023	.103±.003
16-165	6 1/2	6 11/16	3/32	6.487±.023	.103±.003
16-166	6 3/4	6 15/16	3/32	6.737±.023	.103±.003
16-167	7	7 3/16	3/32	6.987±.023	.103±.003
16-168	7 1/4	7 7/16	3/32	7.237±.030	.103±.003
16-169	7 1/2	7 11/16	3/32	7.487±.030	.103±.003
16-170	7 3/4	7 15/16	3/32	7.737±.030	.103±.003
16-171	8	8 3/16	3/32	7.987±.030	.103±.003
16-172	8 1/4	8 7/16	3/32	8.237±.030	.103±.003
16-173	8 1/2	8 11/16	3/32	8.487±.030	.103±.003
16-174	8 3/4	8 15/16	3/32	8.737±.030	.103±.003
16-175	9	9 3/16	3/32	8.987±.030	.103±.003
16-176	9 1/4	9 7/16	3/32	9.237±.030	.103±.003
16-177	9 1/2	9 11/16	3/32	9.487±.030	.103±.003
16-178	9 3/4	9 15/16	3/32	9.737±.030	.103±.003
16-210	3/4	1	1/8	.734±.006	.139±.004
16-211	3/16	1 1/16	1/8	.796±.006	.139±.004
16-212	7/8	1 1/8	1/8	.859±.006	.139±.004
16-213	15/16	1 3/16	1/8	.921±.006	.139±.004
16-214	1	1 1/4	1/8	.984±.006	.139±.004
16-215	1 1/16	1 5/16	1/8	1.046±.006	.139±.004
16-216	1 1/8	1 3/8	1/8	1.109±.006	.139±.004
16-217	1 3/16	1 7/16	1/8	1.171±.006	.139±.004
16-218	1 1/4	1 1/2	1/8	1.234±.006	.139±.004
16-219	1 5/16	1 9/16	1/8	1.296±.006	.139±.004

O-Rings A5-568 Sizes					
	Nominal Size			Actual Size	
Part #	ID	OD	W	ID	W
16-220	1 3/8	1 5/8	1/8	1.359±.006	.139±.004
16-221	1 7/16	1 11/16	1/8	1.421±.006	.139±.004
16-222	1 1/2	1 3/4	1/8	1.484±.006	.139±.004
16-223	1 5/8	1 7/8	1/8	1.609±.010	.139±.004
16-224	1 3/4	2	1/8	1.734±.010	.139±.004
16-225	1 7/8	2 1/8	1/8	1.859±.010	.139±.004
16-226	2	2 1/4	1/8	1.984±.010	.139±.004
16-227	2 1/8	2 3/8	1/8	2.109±.010	.139±.004
16-228	2 1/4	2 1/2	1/8	2.234±.010	.139±.004
16-229	2 3/8	2 5/8	1/8	2.359±.010	.139±.004
16-230	2 1/2	2 3/4	1/8	2.484±.010	.139±.004
16-231	2 5/8	2 7/8	1/8	2.609±.010	.139±.004
16-232	2 3/4	3	1/8	2.734±.015	.139±.004
16-233	2 7/8	3 1/8	1/8	2.859±.015	.139±.004
16-234	3	3 1/4	1/8	2.984±.015	.139±.004
16-235	3 1/8	3 3/8	1/8	3.109±.015	.139±.004
16-236	3 1/4	3 1/2	1/8	3.234±.015	.139±.004
16-237	3 3/8	3 5/8	1/8	3.359±.015	.139±.004
16-238	3 1/2	3 3/4	1/8	3.484±.015	.139±.004
16-239	3 5/8	3 7/8	1/8	3.609±.015	.139±.004
16-240	3 3/4	4	1/8	3.734±.015	.139±.004
16-241	3 7/8	4 1/8	1/8	3.859±.015	.139±.004
16-242	4	4 1/4	1/8	3.984±.015	.139±.004
16-243	4 1/8	4 3/8	1/8	4.109±.015	.139±.004
16-244	4 1/4	4 1/2	1/8	4.234±.015	.139±.004
16-245	4 3/8	4 5/8	1/8	4.359±.015	.139±.004
16-246	4 1/2	4 3/4	1/8	4.484±.015	.139±.004
16-247	4 5/8	4 7/8	1/8	4.609±.015	.139±.004
16-248	4 3/4	5	1/8	4.734±.015	.139±.004
16-249	4 7/8	5 1/8	1/8	4.859±.015	.139±.004
16-250	5	5 1/4	1/8	4.984±.015	.139±.004
16-251	5 1/8	5 3/8	1/8	5.109±.023	.139±.004
16-252	5 1/4	5 1/2	1/8	5.234±.023	.139±.004
16-253	5 3/8	5 5/8	1/8	5.359±.023	.139±.004
16-254	5 1/2	5 3/4	1/8	5.484±.023	.139±.004
16-255	5 5/8	5 7/8	1/8	5.609±.023	.139±.004
16-256	5 3/4	6	1/8	5.734±.023	.139±.004
16-257	5 7/8	6 1/8	1/8	5.859±.023	.139±.004
16-258	6	6 1/4	1/8	5.984±.023	.139±.004
16-259	6 1/4	6 1/2	1/8	6.234±.023	.139±.004
16-260	6 1/2	6 3/4	1/8	6.484±.023	.139±.004
16-261	6 3/4	7	1/8	6.734±.023	.139±.004
16-262	7	7 1/4	1/8	6.984±.023	.139±.004

NOTE: Tolerances may vary depending on material

O-Rings A5-568 Sizes					
	Nominal Size			Actual Size	
Part #	ID	OD	W	ID	W
16-263	7 ¼	7 ½	⅛	7.234±.030	.139±.004
16-264	7 ½	7 ¾	⅛	7.484±.030	.139±.004
16-265	7 ¾	8	⅛	7.734±.030	.139±.004
16-266	8	8 ¼	⅛	7.984±.030	.139±.004
16-267	8 ¼	8 ½	⅛	8.234±.030	.139±.004
16-268	8 ½	8 ¾	⅛	8.484±.030	.139±.004
16-269	8 ¾	9	⅛	8.734±.030	.139±.004
16-270	9	9 ¼	⅛	8.984±.030	.139±.004
16-271	9 ¼	9 ½	⅛	9.234±.030	.139±.004
16-272	9 ½	9 ¾	⅛	9.484±.030	.139±.004
16-273	9 ¾	10	⅛	9.734±.030	.139±.004
16-274	10	10 ¼	⅛	9.984±.030	.139±.004
16-275	10 ½	10 ¾	⅛	10.484±.030	.139±.004
16-276	11	11 ¼	⅛	10.494±.030	.139±.004
16-277	11 ½	11 ¾	⅛	11.484±.030	.139±.004
16-278	12	12 ¼	⅛	11.984±.030	.139±.004
16-279	13	13 ¼	⅛	12.984±.030	.139±.004
16-280	14	14 ¼	⅛	13.984±.030	.139±.004
16-281	15	15 ¼	⅛	14.984±.030	.139±.004
16-282	16	16 ¼	⅛	15.955±.045	.139±.004
16-283	17	17 ¼	⅛	16.955±.045	.139±.004
16-284	18	18 ¼	⅛	17.955±.045	.139±.004
16-325	1 ½	1 ⅞	3⁄16	1.475±.010	.210±.005
16-326	1 ⅝	2	3⁄16	1.600±.010	.210±.005
16-327	1 ¾	2 ⅛	3⁄16	1.725±.010	.210±.005
16-328	1 ⅞	2 ¼	3⁄16	1.850±.010	.210±.005
16-329	2	2 ⅜	3⁄16	1.975±.010	.210±.005
16-330	2 ⅛	2 ½	3⁄16	2.100±.010	.210±.005
16-331	2 ¼	2 ⅝	3⁄16	2.225±.010	.210±.005
16-332	2 ⅜	2 ¾	3⁄16	2.350±.010	.210±.005
16-333	2 ½	2 ⅞	3⁄16	2.475±.010	.210±.005
16-334	2 ⅝	3	3⁄16	2.600±.015	.210±.005
16-335	2 ¾	3 ⅛	3⁄16	2.725±.015	.210±.005
16-336	2 ⅞	3 ¼	3⁄16	2.850±.015	.210±.005
16-337	3	3 ⅜	3⁄16	2.975±.015	.210±.005
16-338	3 ⅛	3 ½	3⁄16	3.100±.015	.210±.005
16-339	3 ¼	3 ⅝	3⁄16	3.225±.015	.210±.005
16-340	3 ⅜	3 ¾	3⁄16	3.350±.015	.210±.005
16-341	3 ½	3 ⅞	3⁄16	3.475±.015	.210±.005
16-342	3 ⅝	4	3⁄16	3.600±.015	.210±.005
16-343	3 ¾	4 ⅛	3⁄16	3.725±.015	.210±.005
16-344	3 ⅞	4 ¼	3⁄16	3.850±.015	.210±.005
16-345	4	4 ⅜	3⁄16	3.975±.015	.210±.005

O-Rings A5-568 Sizes					
	Nominal Size			Actual Size	
Part #	ID	OD	W	ID	W
16-346	4 ⅛	4 ½	3⁄16	4.100±.015	.210±.005
16-347	4 ¼	4 ⅝	3⁄16	4.225±.015	.210±.005
16-348	4 ⅜	4 ¾	3⁄16	4.350±.015	.210±.005
16-349	4 ½	4 ⅞	3⁄16	4.475±.015	.210±.005
16-350	4 ⅝	5	3⁄16	4.600±.015	.210±.005
16-351	4 ¾	5 ⅛	3⁄16	4.725±.015	.210±.005
16-352	4 ⅞	5 ¼	3⁄16	4.850±.015	.210±.005
16-353	5	5 ⅜	3⁄16	4.975±.015	.210±.005
16-354	5 ⅛	5 ½	3⁄16	5.100±.023	.210±.005
16-355	5 ¼	5 ⅝	3⁄16	5.225±.023	.210±.005
16-356	5 ⅜	5 ¾	3⁄16	5.350±.023	.210±.005
16-357	5 ½	5 ⅞	3⁄16	5.475±.023	.210±.005
16-358	5 ⅝	6	3⁄16	5.600±.023	.210±.005
16-359	5 ¾	6 ⅛	3⁄16	5.725±.023	.210±.005
16-360	5 ⅞	6 ¼	3⁄16	5.850±.023	.210±.005
16-361	6	6 ⅜	3⁄16	5.975±.023	.210±.005
16-362	6 ¼	6 ⅝	3⁄16	6.225±.023	.210±.005
16-363	6 ½	6 ⅞	3⁄16	6.475±.023	.210±.005
16-364	6 ¾	7 ⅛	3⁄16	6.725±.023	.210±.005
16-365	7	7 ⅜	3⁄16	6.975±.023	.210±.005
16-366	7 ¼	7 ⅝	3⁄16	7.225±.030	.210±.005
16-367	7 ½	7 ⅞	3⁄16	7.475±.030	.210±.005
16-368	7 ¾	8 ⅛	3⁄16	7.725±.030	.210±.005
16-369	8	8 ⅜	3⁄16	7.975±.030	.210±.005
16-370	8 ¼	8 ⅝	3⁄16	8.225±.030	.210±.005
16-371	8 ½	8 ⅞	3⁄16	8.475±.030	.210±.005
16-372	8 ¾	9 ⅛	3⁄16	8.725±.030	.210±.005
16-373	9	9 ⅜	3⁄16	8.975±.030	.210±.005
16-374	9 ¼	9 ⅝	3⁄16	9.225±.030	.210±.005
16-375	9 ½	9 ⅞	3⁄16	9.475±.030	.210±.005
16-376	9 ¾	10 ⅛	3⁄16	9.725±.030	.210±.005
16-377	10	10 ⅜	3⁄16	9.975±.030	.210±.005
16-378	10 ½	10 ⅞	3⁄16	10.475±.030	.210±.005
16-379	11	11 ⅜	3⁄16	10.975±.030	.210±.005
16-380	11 ½	11 ⅞	3⁄16	11.475±.030	.210±.005
16-381	12	12 ⅜	3⁄16	11.975±.030	.210±.005
16-382	13	13 ⅜	3⁄16	12.975±.030	.210±.005
16-383	14	14 ⅜	3⁄16	13.975±.010	.210±.005
16-384	15	15 ⅜	3⁄16	14.975±.030	.210±.005
16-385	16	16 ⅜	3⁄16	15.955±.045	.210±.005
16-386	17	17 ⅜	3⁄16	16.955±.045	.210±.005
16-387	18	18 ⅜	3⁄16	17.955±.045	.210±.005
16-388	19	19 ⅜	3⁄16	18.953±.047	.210±.005

O-RINGS

LONGWOOD

NOTE: Tolerances may vary depending on material

O-Rings A5-568 Sizes

Part #	Nominal Size ID	Nominal Size OD	Nominal Size W	Actual Size ID	Actual Size W
16-389	20	20 ⅜	3/16	19.953±.047	.210±.005
16-390	21	21 ⅜	3/16	20.953±.047	.210±.005
16-391	22	22 ⅜	3/16	21.953±.047	.210±.005
16-392	23	23 ⅜	3/16	22.940±.060	.210±.005
16-393	24	24 ⅜	3/16	23.940±.060	.210±.005
16-394	25	25 ⅜	3/16	24.940±.060	.210±.005
16-395	26	26 ⅜	3/16	25.940±.060	.210±.005
16-425	4 ½	5	¼	4.475±.015	.275±.006
16-426	4 ⅝	5 ⅛	¼	4.600±.015	.275±.006
16-427	4 ¾	5 ¼	¼	4.725±.015	.275±.006
16-428	4 ⅞	5 ⅜	¼	4.850±.015	.275±.006
16-429	5	5 ½	¼	4.975±.015	.275±.006
16-430	5 ⅛	5 ⅝	¼	5.100±.023	.275±.006
16-431	5 ¼	5 ¾	¼	5.225±.023	.275±.006
16-432	5 ⅜	5 ⅞	¼	5.350±.023	.275±.006
16-433	5 ½	6	¼	5.475±.023	.275±.006
16-434	5 ⅝	6 ⅛	¼	5.600±.023	.275±.006
16-435	5 ¾	6 ¼	¼	5.725±.023	.275±.006
16-436	5 ⅞	6 ⅜	¼	5.850±.023	.275±.006
16-437	6	6 ½	¼	5.975±.023	.275±.006
16-438	6 ¼	6 ¾	¼	6.225±.023	.275±.006
16-439	6 ½	7	¼	6.475±.023	.275±.006
16-440	6 ¾	7 ¼	¼	6.725±.023	.275±.006
16-441	7	7 ½	¼	6.975±.023	.275±.006
16-442	7 ¼	7 ¾	¼	7.225±.030	.275±.006
16-443	7 ½	8	¼	7.475±.030	.275±.006
16-444	7 ¾	8 ¼	¼	7.725±.030	.275±.006
16-445	8	8 ½	¼	7.975±.030	.275±.006
16-446	8 ½	9	¼	8.475±.030	.275±.006
16-447	9	9 ½	¼	8.975±.030	.275±.006
16-448	9 ½	10	¼	9.475±.030	.275±.006
16-449	10	10 ½	¼	9.975±.030	.275±.006
16-450	10 ½	11	¼	10.475±.030	.275±.006
16-451	11	11 ½	¼	10.975±.030	.275±.006
16-452	11 ½	12	¼	11.475±.030	.275±.006
16-453	12	12 ½	¼	11.975±.030	.275±.006
16-454	12 ½	13	¼	12.475±.030	.275±.006
16-455	13	13 ½	¼	12.975±.030	.275±.006
16-456	13 ½	14	¼	13.475±.030	.275±.006
16-457	14	14 ½	¼	13.975±.030	.275±.006
16-458	14 ½	15	¼	14.475±.030	.275±.006
16-459	15	15 ½	¼	14.975±.030	.275±.006
16-460	15 ½	16	¼	15.475±.030	.275±.006

O-Rings A5-568 Sizes

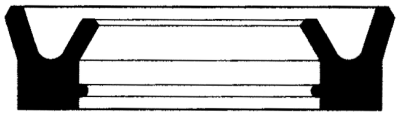
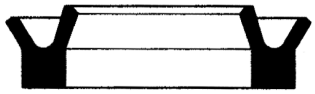
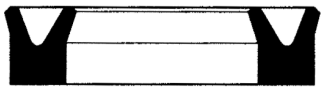
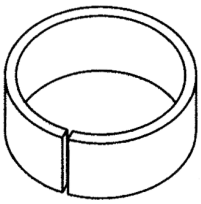
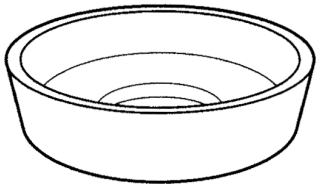
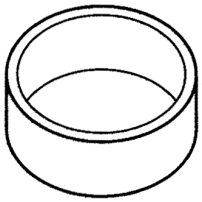
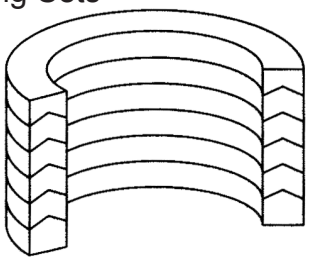
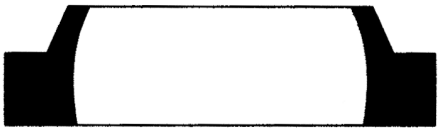
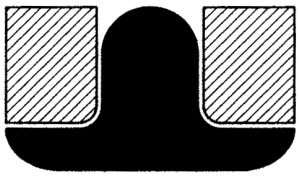
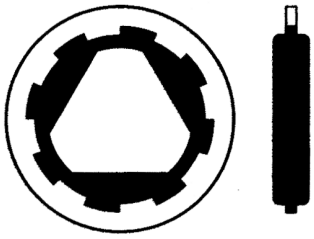
Part #	Nominal Size ID	Nominal Size OD	Nominal Size W	Actual Size ID	Actual Size W
16-461	16	16 ½	¼	15.955±.045	.275±.006
16-462	16 ½	17	¼	16.455±.045	.275±.006
16-463	17	17 ½	¼	16.955±.045	.275±.006
16-464	17 ½	18	¼	17.455±.045	.275±.006
16-465	18	18 ½	¼	17.955±.045	.275±.006
16-466	18 ½	19	¼	18.455±.045	.275±.006
16-467	19	19 ½	¼	18.955±.045	.275±.006
16-468	19 ½	20	¼	19.455±.045	.275±.006
16-469	20	20 ½	¼	19.955±.045	.275±.006
16-470	21	21 ½	¼	20.955±.045	.275±.006
16-471	22	22 ½	¼	21.955±.045	.275±.006
16-472	23	23 ½	¼	22.940±.060	.275±.006
16-473	24	24 ½	¼	23.940±.060	.275±.006
16-474	25	25 ½	¼	24.940±.060	.275±.006
16-475	26	26 ½	¼	25.940±.060	.275±.006

O-Ring Boss Gaskets for Straight Thread Fittings

A5-568 Sizes

Part #	Actual Size ID	Actual Size W
16-901	.185±.005	.056
16-902	.239±.005	.064
16-903	.301±.005	.064
16-904	.351±.005	.072
16-905	.414±.005	.072
16-906	.468±.005	.078
16-907	.468±.005	.082
16-908	.644±.005	.087
16-909	.706±.005	.097
16-910	.755±.005	.097
16-911	.863±.005	.116
16-912	.924±.006	.116
16-913	.986±.006	.116
16-914	1.047±.006	.116
16-916	1.171±.006	.116
16-918	1.355±.006	.116
16-920	1.475±.010	.118
16-924	1.720±.010	.118
16-928	2.090±.010	.118
16-932	2.337±.010	.118

ILLUSTRATIONS BELOW NOT TO SCALE

Heavy-Duty Rod U-Seals 	Heavy-Duty Piston U-Seals 
Heavy-Duty U-Seals 	Wear Rings ⅛″ Thick 
Piston Cups 	Modular Bearings 
Vee Packing Sets 	Urethane Wiper Rings 
T-Seals 	Thread Seal Seals directly against the threads of a bolt. Self-centering and easily installed. 

GASKET SELECTION & DESIGN

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Selection Factors

Selection of the most suitable gasket material for a specific application usually involves a number of requirements and is more complex than is readily apparent.

The most important conditions to be considered are the medium to be sealed, the flange temperature, internal pressure, flange construction, and load on the gasket. Other factors that also play a significant role are vibration, torque loss of bolts, and distribution of flange load.

Flange Loads

Flange load usually varies over the area to be sealed, sometimes to a considerable extent. The load tends to be concentrated in the immediate vicinity of the bolts. Thinner flanges exhibit this characteristic more than heavier flanges, since more deformation occurs when the bolt load is applied.

Stamped flanges are particularly susceptible to this condition. The addition of ribs or other reinforcements is frequently used to reduce the amount of deformation.

The guidelines given here are intended to serve as general indicators of the range of average flange loads used for each category. Since each group includes materials with widely varying properties, these loads are only approximate with exceptions to be found in some cases.

500—2000 psi (6.89— 13.78 MPa)
Highly compressible materials.
Protein-glycerine treated cellulose fiber, soft rubber-asbestos

1000—3000 psi (6.89— 20.67 MPa)
Moderately compressible materials.
Rubber-cellulose fiber, medium density rubber-asbestos

2000—5000 psi (13.78—34.47 MPa)
Low compressibility materials.
Medium or high density rubber-asbestos

Temperature

Each type of material possesses a satisfactory maximum working temperature, depending upon its composition. The temperature of the flanges in contact with a gasket must therefore be considered in the selection process.

250˚F (121˚C) max.
Protein-glycerine treated cellulose fiber materials.

300˚F (149˚C) max.
Rubber-cellulose fiber materials.

400–500˚F (204–260˚C) max.
Rubber-asbestos fiber materials.

Sealing Fluids

The most frequently used fluids are petroleum oils, automotive fuels, and water. Flange sealing conditions and other factors already described must be considered along with composition of the gasket material.

In the selection of a suitable material on this basis, certain general criteria can be followed:

Protein-glycerine cellulose fiber materials
Petroleum oils and fuels
Water under some conditions

Styrene or blended rubber-cellulose or asbestos fiber materials
Petroleum oils and fuels under moderate application conditions.
Water—specific material grades.

Nitrile rubber—cellulose or asbestos fiber materials
Petroleum oils and fuels
Water

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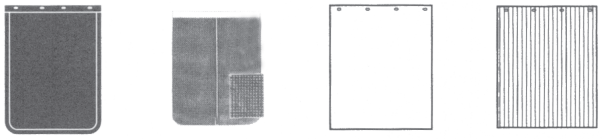
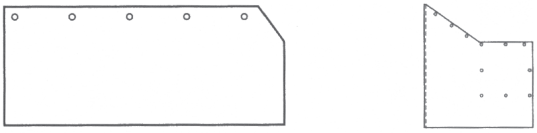
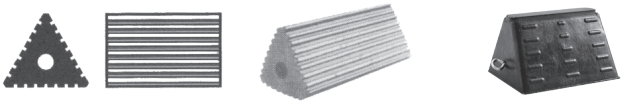
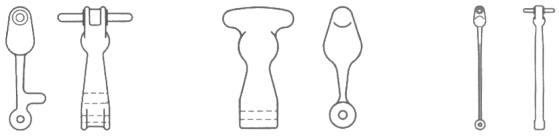
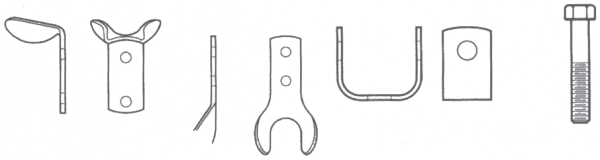
VEHICULAR PARTS 18

Rubber Splash Guards  Pg. 108

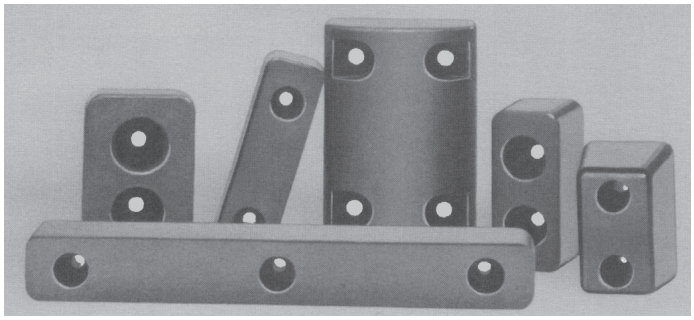
Miscellaneous Splash Guards  Pg. 110

Wheel Chocks  Pg. 111

Rubber Hooks  Pg. 112

Metal Hardware  Pg. 113

Miscellaneous Pg. 114



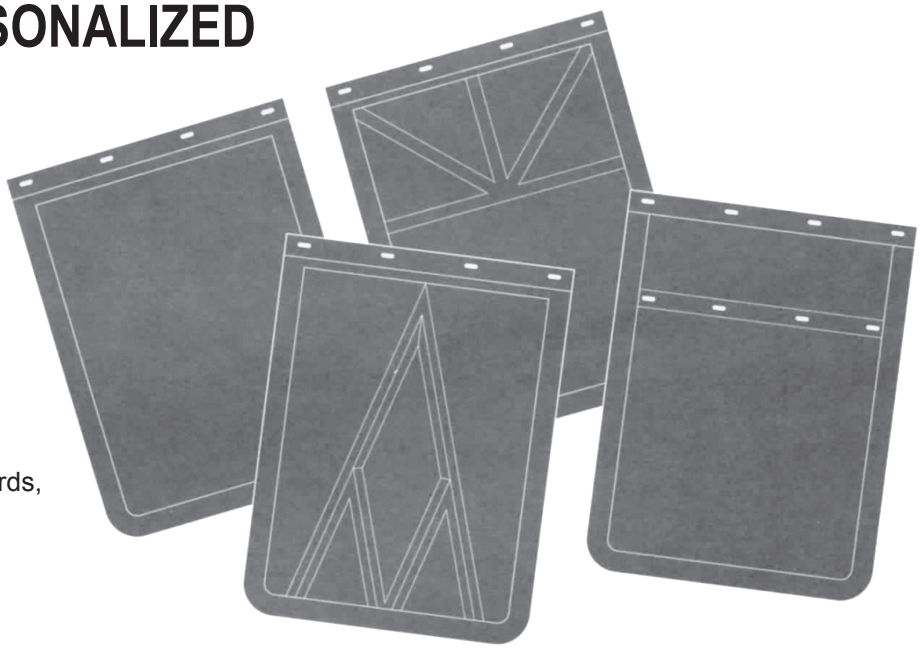
See pages 21 - 25 for Truck & Trailer Bumpers

RUBBER SPLASH GUARDS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

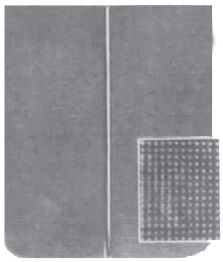
PLAIN OR PERSONALIZED



Also Available:
White polyethylene splash guards, plain or personalized

Durable 5/16″ — Black Only		
Part #	**Size (in.)**	**Approx. Wt./Pair**
18-4582	24 x 24	11 lbs
18-4583	24 x 30	13.5 lbs
18-4585	24 x 36	16.5 lbs
Anti-Spray ½″ — Black Rubber		
18-4594	24 x 24	14.5 lbs
18-4595	24 x 30	17 lbs
18-4596	24 x 36	20 lbs

ANTI-SPRAY

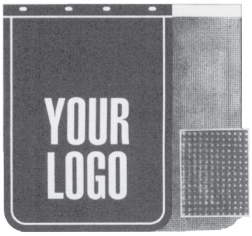


Miscellaneous		
Part #	**Size (in.)**	**Approx. Wt./Pair**
18-1140	20 x 25	6 lbs
18-1141	24 x 18	9 lbs
18-1149	24 x 20	10.5 lbs
18-1502	24 x 24	11 lbs
18-1504	24 x 30	13.5 lbs
18-2104	24 x 30	13.5 lbs
18-2105	24 x 36	16.5 lbs
18-2106	24 x 36	16.5 lbs
18-2107	24 x 30/36	17.5 lbs
18-3410	24 x 24	11 lbs
18-4010	24 x 30	17 lbs

ILLUSTRATIONS BELOW NOT TO SCALE

Rubber Flaps (Black Only)

Raintrapper



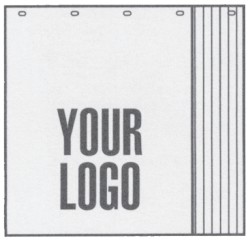
- Anti-sail
- Anti-spray
- Reinforced Rubber
- The most durable flap on the market
- Part # 67-4090

Standard

- 5/16″ Thick
- Reinforced mounting holes
- Reinforced rubber
- Resists waving, cracking, and tearing
- Part # 67-4584

Rubberized Poly Flaps (Black or White)

Polyguard Plus



- Anti-sail
- Anti-spray
- Stays flexible in the coldest conditions
- Resists breaking or cracking
- Part # PGP2430

Polyguard

- Anti-breaking compound
- Brightest white on the market
- Stays flexible in the coldest conditions
- Part # PG2430

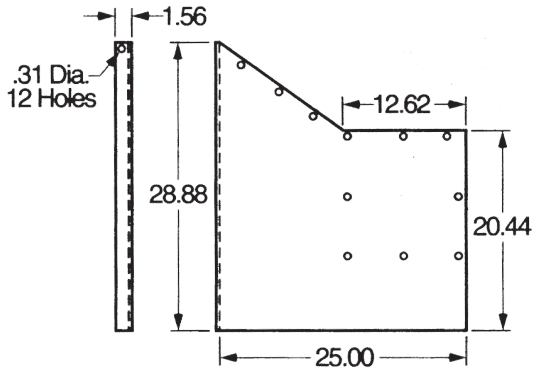
- We can reproduce virtually any decal or logo.
- If you do not have a logo our in-house artist will design one for you.

MISCELLANEOUS SPLASH GUARDS

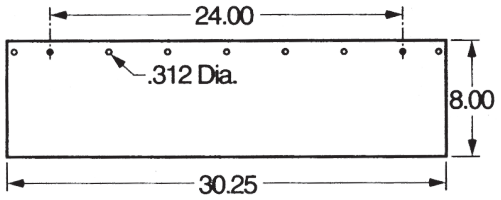
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

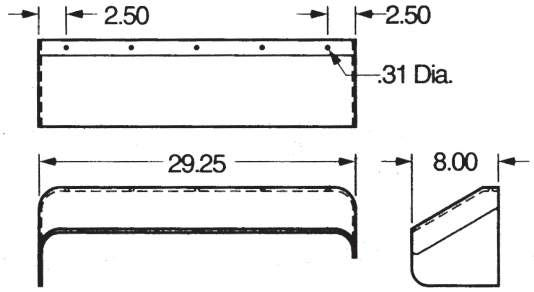
18-3980R



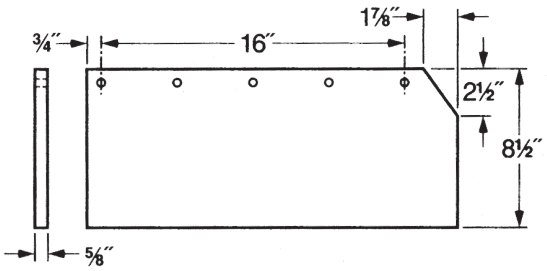
18-4139R



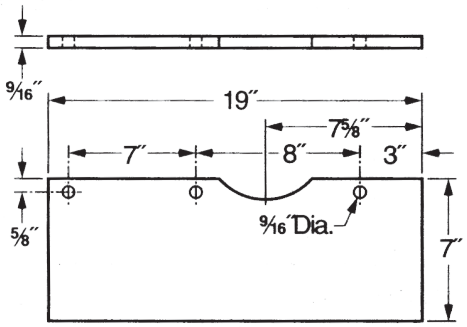
18-3001R



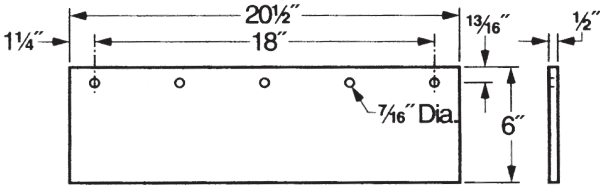
18-4487R



18-6046R



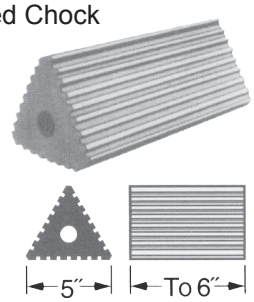
18-4488R



Call 1-800-829-7231 for sales assistance

ILLUSTRATIONS BELOW NOT TO SCALE

18-56
Extruded Chock



AIRCRAFT CHOCKS

For use with medium-duty trucks, aircraft, and large pipe.

Weight: 9 lbs./ft. (black)
7 ½ lbs./ft. (yellow)

Heavy-Duty Truck & Trailer Chocks

Longwood's heavy-duty molded wheel chocks are a "must have" for safety, durability, and economy.

OSHA requires wheel chocks under the rear wheels of highway semi's while being loaded or unloaded with powered lift trucks. The design and composition of our chocks minimizes the possibility of injury from unsecured trailers and positively prevents vehicle movement. Our chocks are designed to grip even under bad weather conditions.

Economy and Durability

Once you buy Longwood wheel chocks, you can't get rid of them. They're yours for a long, long time. Our chocks are made of Tensile-Tex, 100% fiber-reinforced rubber, so they'll probably outlast your trucks. They can't get lost, because the eyebolt ensures that they'll stay put right on the dock or on the truck. If they get run over, they bounce right back, and they can't ruin your truck's tires because of their hard rubber composition.

These chocks resist abrasion, sun, oil, and ozone. They can withstand extremes of cold, heat, and weather, too. They're almost forever. Give them a try and you'll see what we mean.

Heavy-Duty Truck & Trailer Chocks

Part #	Size	Wt. Each
18-1047	5 ⅝H x 9 ½W x 7 ¾L—Pyramid	7 - 8 lbs.

18-1047

Call 1-800-829-7231
for other sizes and
configurations

RUBBER HOOKS

LONGWOOD

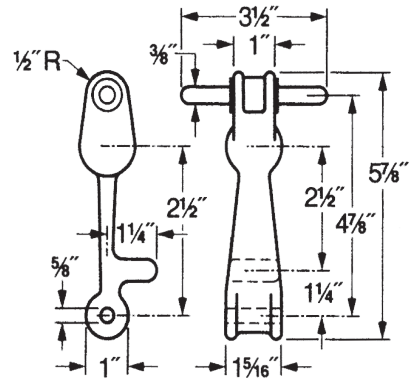
ILLUSTRATIONS BELOW NOT TO SCALE

Truck Hood, Battery Box, Hatch Cover Fasteners

Snug-fit fastening with never a squeak! Neat, trim appearance. Special formula high-impact resin handles and quality rubber body are impervious to weather, chemicals, and dirt. All Longwood rubber hood hooks have molded polycarbonate resin handles.

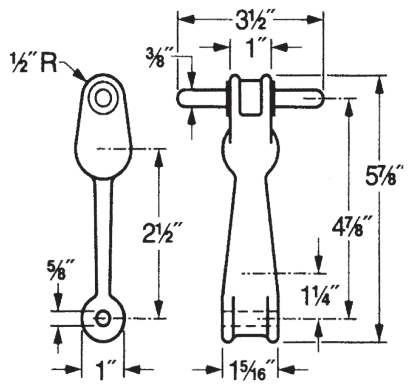
Flexible, quiet Longwood hood hooks won't rust, won't corrode. Require no lubrication, yet provide snug, positive fastening and unfastening with smooth, effortless ease. Select pull force from charts.

18-7001



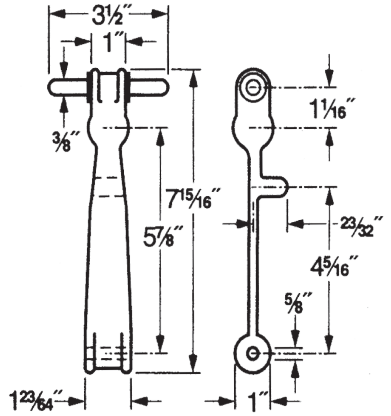
With anti-rattle nub. Our standard model. Especially suited to fastening truck hoods and for heavy-duty applications.

18-7002



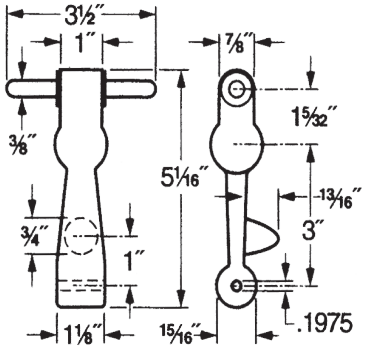
Without anti-rattle nub.

18-7003



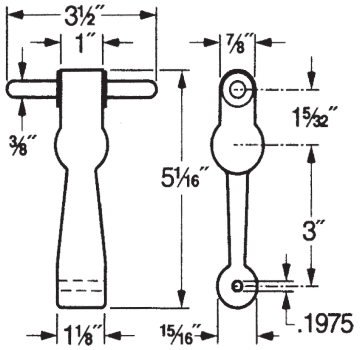
With anti-rattle nub.

18-7004



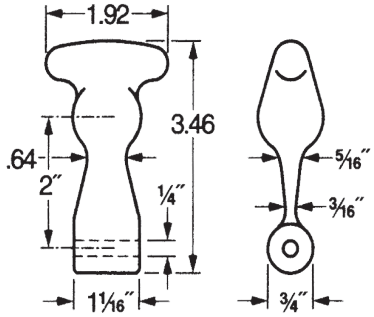
With anti-rattle nub. Our compact model. Excellent size for securely fastening battery box covers in limited space

18-7005



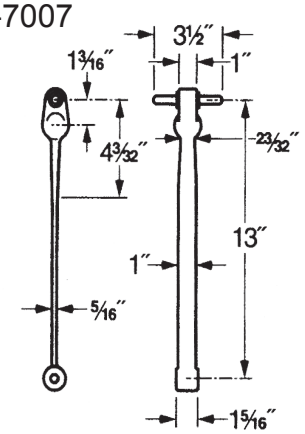
Without anti-rattle nub.

18-7006

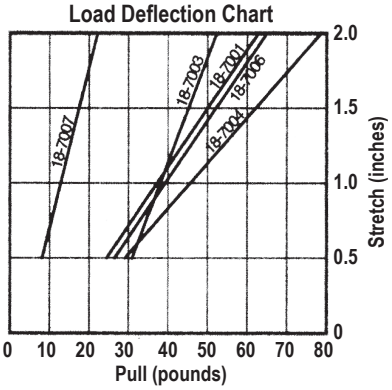


Our smallest model. Ideal size for small hoods and access panels.

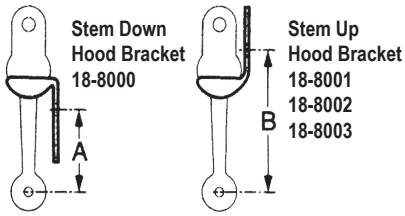
18-7007



Our largest model. Long reach for extra stretch and around-corner fastening.



Determine stretch or holding force required from load deflection chart and add zero-stretch dimension A or B to locate hood bracket in relation to anchor bracket.

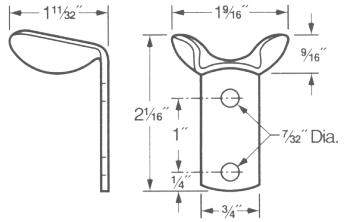


Hood Hook	A 18-8000	B 18-8001	B 18-8002	B 18-8003
18-7001	2 5/8	3 7/8	3 7/8	6 11/16
18-7002	2 5/8	3 7/8	3 7/8	6 11/16
18-7003	4 3/4	6 1/16	6 1/16	8 5/8
18-7004	2	3 3/16	3 3/16	6
18-7005	2	3 3/16	3 3/16	6
18-7006	1 1/16	2 3/8	2 3/8	4 13/16
18-7007	10 5/8	11 3/4	11 3/4	14 19/32

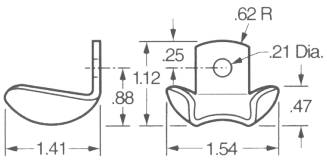
ILLUSTRATIONS BELOW NOT TO SCALE

...designed especially for Longwood rubber hooks. Precision-made from high-quality steel with a special hot-zinc, bright finish. Attractive appearance, or easily painted in your shop if desired. This heavy-duty hardware accurately fits the Longwood rubber hooks. Also available chrome-plated on special order.

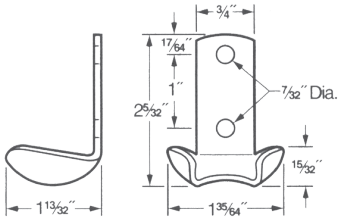
18-8000 Hood Bracket



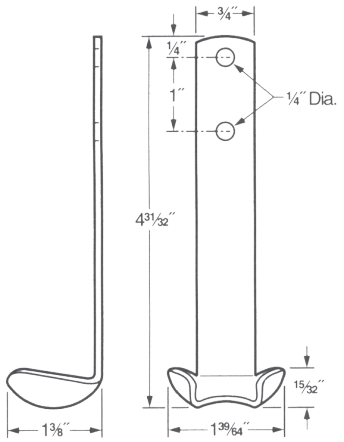
18-8001 Hood Bracket



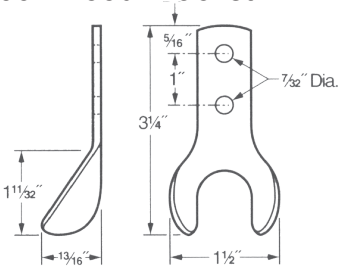
18-8002 Hood Bracket



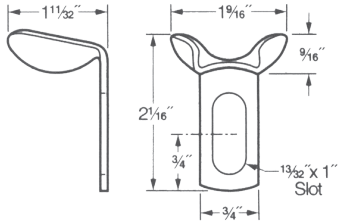
18-8003 Hood Bracket



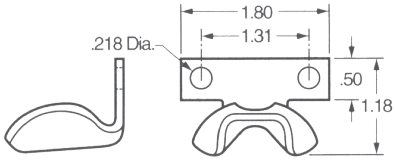
18-8004 Hood Bracket



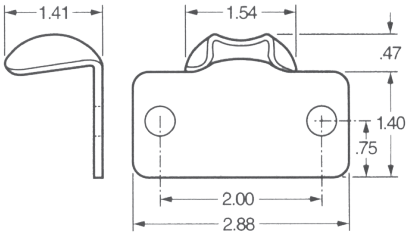
18-8005 Hood Bracket



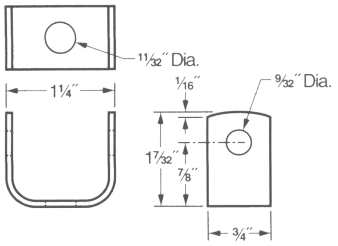
18-8006 Hood Bracket



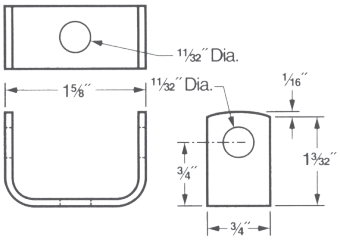
18-8007 Hood Bracket



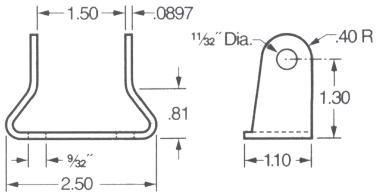
18-8008 Anchor Bracket



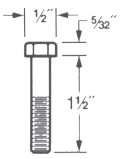
18-8009 Anchor Bracket



18-8011 Anchor Bracket

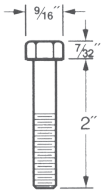


Anchor Bolt



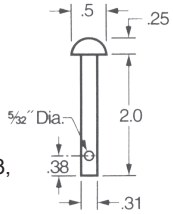
¼ NC x 1 ½ HH cad. pl. bolt w/ self-locking nut. Use with: 18-7004, 18-7005, 18-7006

Anchor Bolt



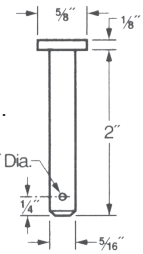
5/16 NF x 2 HH cad. pl. bolt w/ self-locking nut. Use with: 18-7001, 18-7002, 18-7003, 18-7007

18-8012 Anchor Pin



Chrome-plated steel. Use with: 18-001, 18-002, 18-003, 18-007

18-8010 Anchor Pin



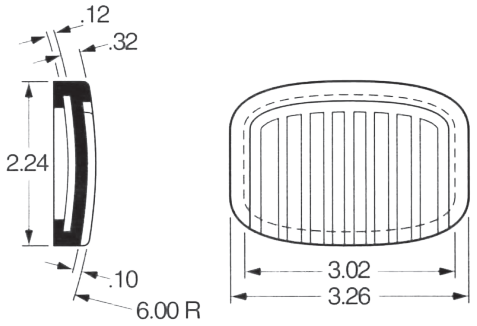
Zinc-plated steel. Use with: 18-001, 18-002, 18-003 18-007

MISCELLANEOUS

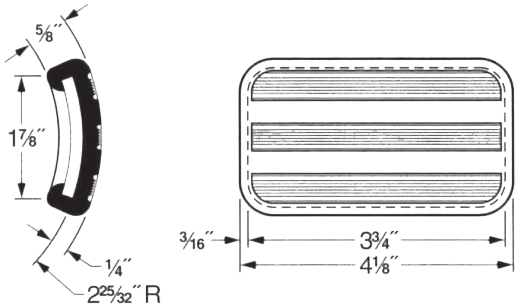
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

18-6654R Pedal Pad



18-6720R Pedal Pad

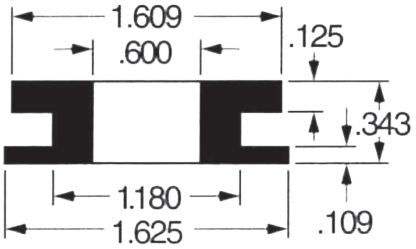


Longwood can custom-mold parts to your specifications.
Fax drawings to 336-272-5619
or call 1-800-829-7231

Longwood offers:
- -Die Cutting
- -Molding
- -Extruding

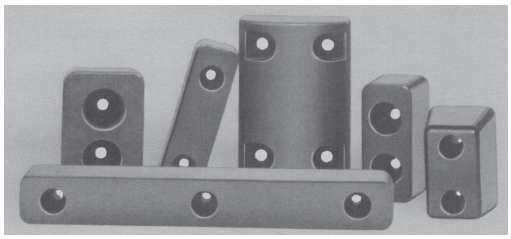
18-6711R Glad-Hand Seal (TPE)

Double Lip
- -Red
- -Blue
- -Black



Molded Tarp Straps

Longwood tarp straps have heavy-duty molded ends so hooks will not slip.



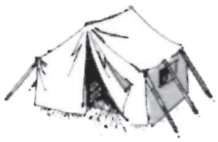
See pages 21-25 for truck & trailer bumpers

Molded Tarp Straps	
Part #	**Rubber Length Unstretched**
18-009	9″
18-015	15″
18-020	20″
18-031	31″
18-041	41″

"S" hooks 2 ½″ long, 50/ea. per box

APPLICATIONS!

FARMING



CAMPING

TRUCKING

BOATING

RECREATION VEHICLES

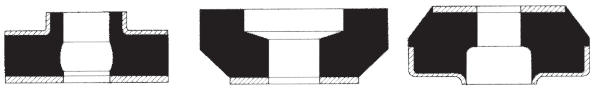
VIBRATION & SHOCK ISOLATORS 20

Despite Longwood's extensive selection of Vibration Isolators, there are times when you will require a custom part. Longwood can prototype and manufacture to your specifications.

Flex Bolt Stud Mounts

Pg. 116

Torsional Control Mounts

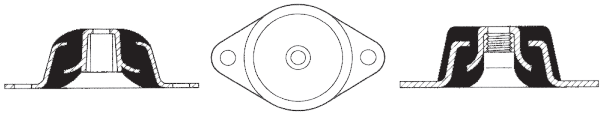


Pg. 117

Center Bonded Mounts

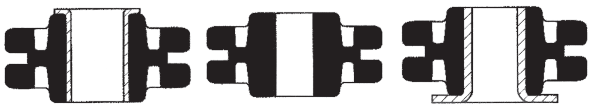
Pg. 121

Compression Mounts



Pg. 121

Grommet Mounts

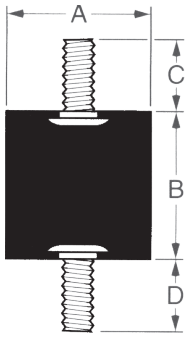


Pg. 122

Please call customer service at 1-800-829-7231 for additional information or to request a copy of Longwood's complete Vibration & Shock Mounts catalog.

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

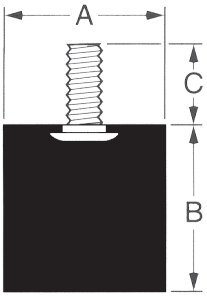


Rubber Vibration Dampers				
Part #	**A**	**B**	**C**	**D**
20-RC100*	3/8	5/16	8-32 NC x 7/32	8-32 NC x 7/32
20-RC101	3/8	5/16 SQ.	8-32 NC x 3/8	8-32 NC x 3/8
20-RC102	3/8	1/2 SQ.	8-32 NC x 7/32	8-32 NC x 7/32
20-RC103	3/8	1/2 SQ.	8-32 NC x 3/8	8-32 NC x 3/8
20-RC9080	3/8	1/2	8-32 x 1/2	8-32 x 1/2
20-RC104	7/16	1/2	8-32 NC x 1/4	8-32 NC x 1/4
20-RC105	7/16	1/2	8-32 x 3/8	8-32 x 3/8
20-RC9082	5/8	1/2	8-32 x 1/2	8-32 x 1/2
20-RC9046	3/4	3/4	1/4-20 x 1/2	1/4-20 x 1/2
20-RC9045	3/4	1	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9084	1	1/2	1/4-20 x 1/2	1/4-20 x 1/2
20-RC9047	1	3/4	1/4-20 x 1/2	1/4-20 x 1/2
20-RC109	1	3/4	1/4-20 x 1/2	1/4-20F x 1/2
20-RC112	1	3/4	1/4-20 x 1/2	1/4-20 x3/4
20-RC113	1	3/4	5/16-18 x 5/8	5/16-18 x 3/4
20-RC9474	1	3/4	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9074	1	1	1/4-20 x 1/2	1/4-20 x 1/2
20-RC9044	1	1	5/16-18 x 5/8	5/16-18 x 5/8
20-RC115	1	17/16	1/4-20 x 3/8	5/16-18 x 1/2
20-RC116	1	1 1/2	5/16-18 x 5/8	5/16-18F BLIND
20-RC9070	1	3	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9048	1 1/4	3/4	1/4-20 x 1/2	1/4-20 x 1/2
20-RC9042	1 1/4	1	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9034	1 1/4	1 1/4	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9043	1 3/8	1	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9049	1 1/2	3/4	1/4-20 x 1/2	1/4-20 x 1/2
20-RC9036	1 1/2	1	5/16-18 x 5/8	5/16-18 x 5/8
20-RC9037	1 9/16	1	3/8-16 x 5/8	3/8-16 x 5/8
20-RC9075	2	3/4	3/8-16 x 1 1/8	3/8-16 x 1 1/8
20-RC9065	2	1 5/8	3/8-16 x 5/8	3/8-16 x 5/8
20-RC9068	2 1/8	1 3/4	5/8-18 x 1 1/8	5/8-18 x 1 1/8
20-RC9072	3 1/8	2 1/4	1/2-13 x 1 1/4	1/2-13 x 1 1/4

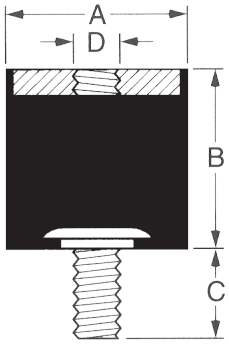
*Also Available with 6-32 Threads
Non-Standard Threads Available

Longwood can custom-mold vibration & shock mounts

ILLUSTRATIONS BELOW NOT TO SCALE



Rubber Vibration & Shock Mounts			
Part #	A	B	C
20-RC9180	⅜	½	8-32 x ½
20-RC9182	⅝	½	8-32 x ½
20-RC9146	¾	¾	¼-20 x ½
20-RC9145	¾	1	5⁄16-18 x ⅝
20-RC9184	1	½	¼-20 x ½
20-RC9284	1	⅝	5⁄16-18 x ⅝
20-RC9147	1	¾	¼-20 x ½
20-RC9174	1	1	¼-20 x ½
20-RC9144	1	1	5⁄16-18 x ⅝
20-RC9142	1 ¼	1	5⁄16-18 x ⅝
20-RC9160	1 ⅜	⅝	½-13 x ¾
20-RC9143	1 ⅜	1	5⁄16-18 x ⅝
20-RC9149	1 ½	¾	¼-20 x ½
20-RC9136	1 ½	1	5⁄16-24 x ⅝
20-RC9137	1 9⁄16	1	⅜-16 x ⅝
20-RC9175	2	¾	⅜-16 x 1 ⅛
20-RC9165	2	1 ⅝	⅜-16 x ⅝
20-RC9139	2 13⁄64	1 3⁄32	⅜-16 x ⅝
20-RC9172	3 ⅛	2 ¼	½-13 x 1 ¼



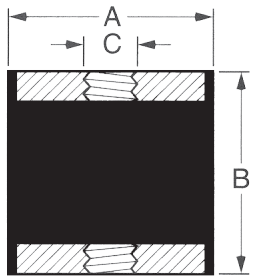
Rubber Vibration & Shock Mounts				
Part #	A	B	C	D
20-RC9081	⅜	½	8-32 x ½	8-32
20-RC9083	⅝	½	8-32 x ½	8-32
20-RC9085	1	½	¼-20 x ½	¼-20
20-RC9475	1	¾	¼-20 x ½	¼-20
20-RC9745	1	1	¼-20 x ½	¼-20
20-RC9041	1	1	5⁄16-18 x ⅝	5⁄16-18
20-RC9434	1 ⅜	1	5⁄16-18 x ⅝	5⁄16-18
20-RC9038	1 ½	1	5⁄16-18 x ⅝	5⁄16-18
20-RC9076	2	¾	⅜-16 x 1 ⅛	⅜-16
20-RC9066	2	1 ⅝	⅜-16 x 1 ⅛	⅜-16
20-RC9077	2	2	⅜-16 x 1 ⅛	⅜-16
20-RC9725	3.12	2.25	½-13 x 1 ¼	½-13

Call: 1-800-829-7231 — or — Fax to: 336-272-5619

VIBRATION & SHOCK MOUNTS

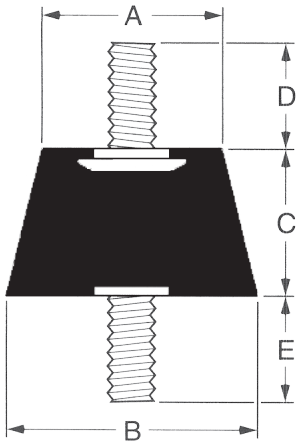
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



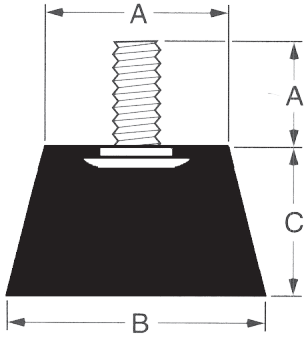
Rubber Vibration & Shock Mounts

Part #	A	B	C
20-RC9086	⅜	½	8-32x
20-RC9087	⅝	½	8-32
20-RC9088	1	½	¼-20
20-RC9040	1	1	5⁄16-18
20-RC9035	1 ½	1	5⁄16-18
20-RC9035A	1 ½	1	5⁄16-24
20-RC9064	2	1 ⅝	⅜-16
20-RC9073	3.12	2.25	½-13



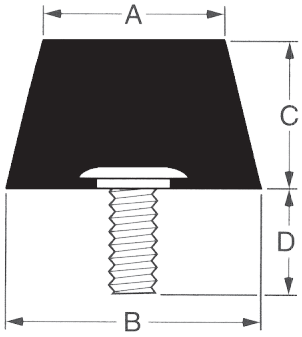
Rubber Vibration & Shock Mounts

Part #	A	B	C	D	E
20-RC9030	1 3⁄16	1 ⅝	1 ½	5⁄16-18 x ⅝	5⁄16-18 x ⅝
20-RC9032	1 3⁄16	1 ⅝	2	5⁄16-18 x ⅝	5⁄16-18 x ⅝
20-RC9033	1 ⅜	1 ⅝	2	5⁄16-18 x ⅝	5⁄16-18 x ⅝



Rubber Vibration & Shock Mounts

Part #	A	B	C	D
20-RC9130	1 3⁄16	1 ⅝	1 ½	5⁄16-18 x ⅝
20-RC9133	1 ⅜	1 ⅝	1	5⁄16-18 x ⅝

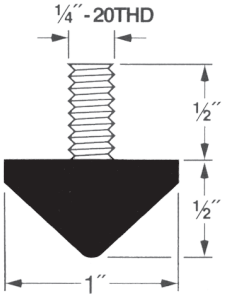


Rubber Vibration & Shock Mounts

Part #	A	B	C	D
20-RC9131	1	1 ½	1 ¼	5⁄16-18 x ⅝
20-RC9131A	1	1 ½	1 ¼	5⁄16-24 x ⅝
20-RC9132	1 3⁄16	1 ⅝	2	5⁄16-24 x ⅝

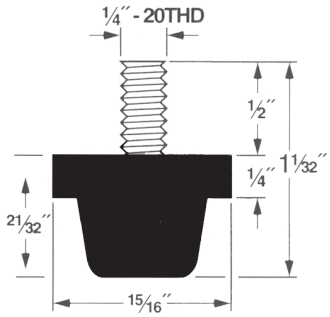
ILLUSTRATIONS BELOW NOT TO SCALE

20-RC 9170



Durometer: 50
K Value: 500 lbs/in.
Max Recommended Deflection: .05″
Load @ Max. Deflection: 25 lbs.

20-RC 9171

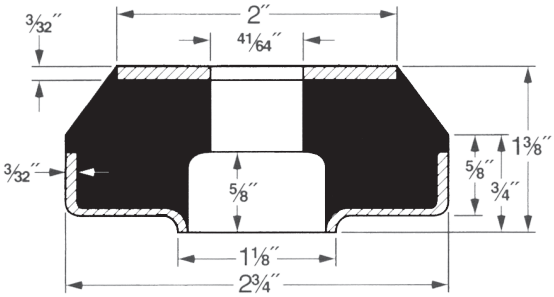


Durometer: 50
K Value: 300 lbs/in.
Max Recommended Deflection: .065″
Load @ Max. Deflection: 20 lbs.

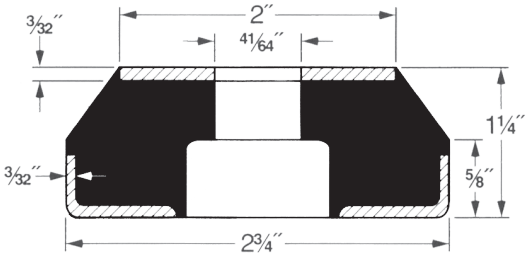
Longwood can custom-mold vibration & shock mounts

fax: 336-272-5619
— or —
call: 1-800-829-7231

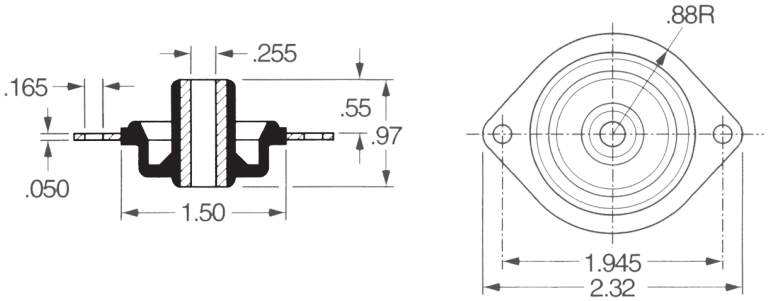
20-RC 9050



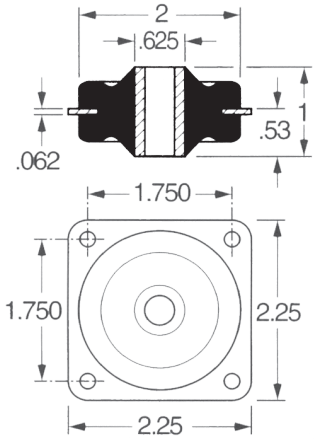
20-RC 9050F



20-RC 9090



20-RC 9091



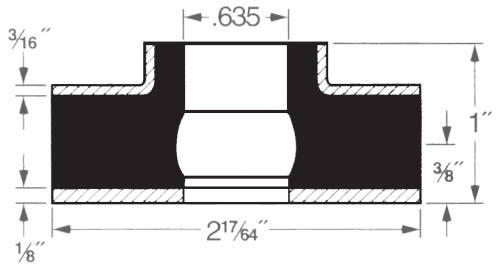
Call 1-800-829-7231 for assistance with selecting mounts

VIBRATION & SHOCK MOUNTS

LONGWOOD

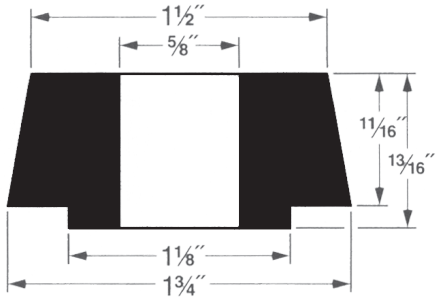
ILLUSTRATIONS BELOW NOT TO SCALE

20-RC 9055



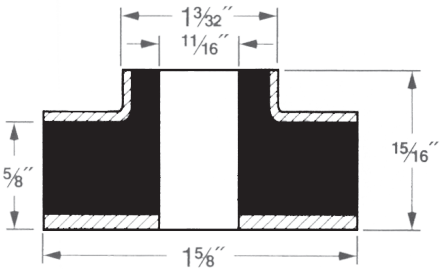
This Vibro-Insulator is designed specifically to dampen torsional vibrations in rotating-type machinery. It can, however, also be used as a compression mount. Compression details and performance data may be obtained by contacting Longwood.

20-RC 9051

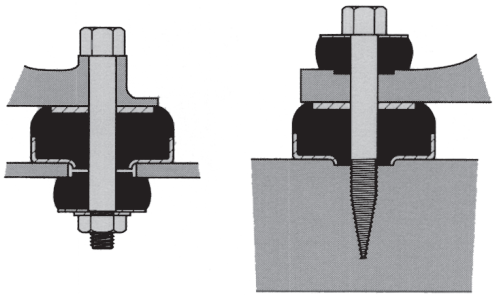


Primary application is the isolation of internal combustion engines against torsional vibration.

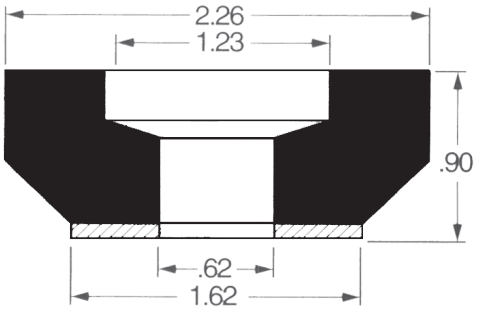
20-RC 9059



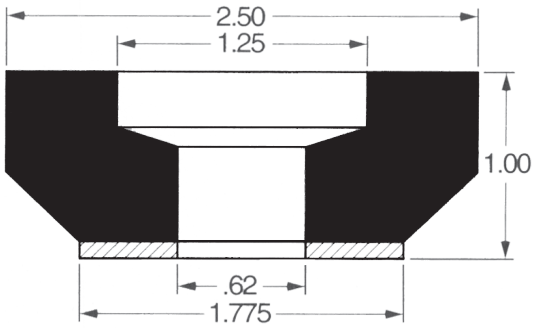
Torsional control insulators are designed so that they can be used in combination as shown here.



20-RC 9531



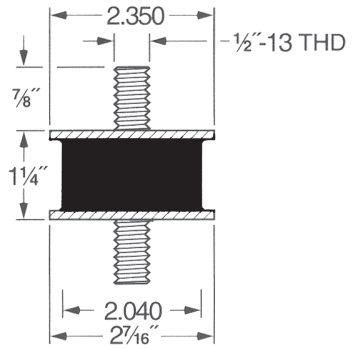
20-9053



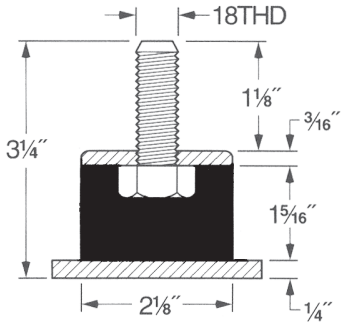
Specify part # and durometer

ILLUSTRATIONS BELOW NOT TO SCALE

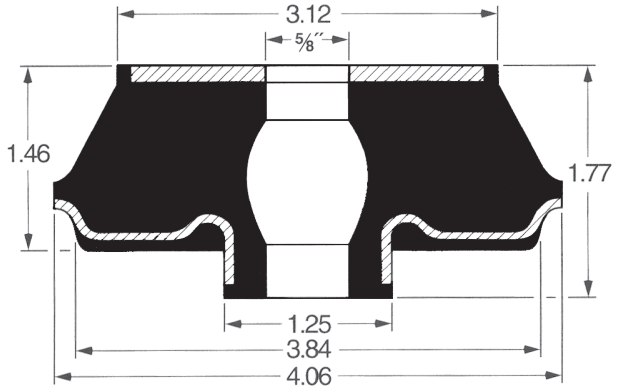
20-RC 9078



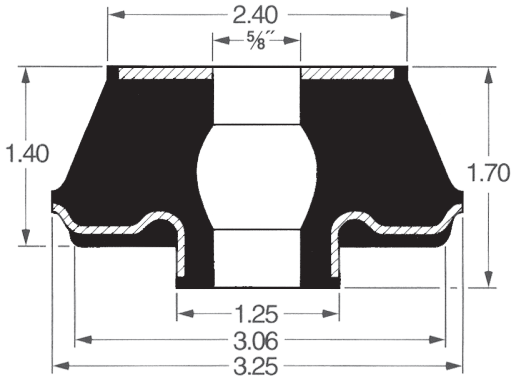
20-RC 9167



20-RC 9052

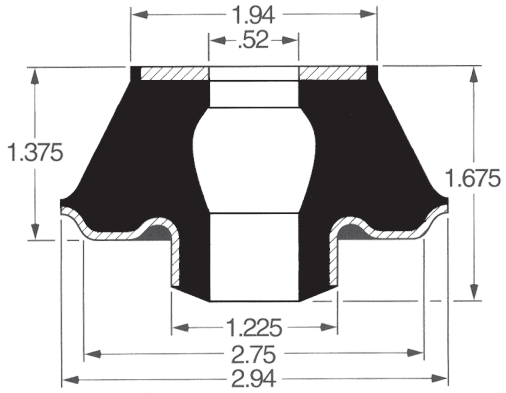


20-RC 9521



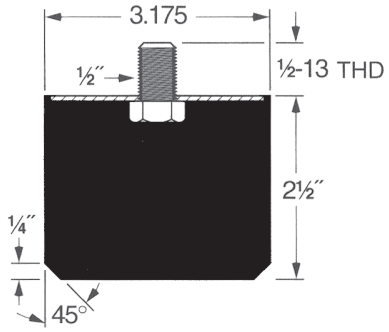
Use ⅝ dia. shoulder bolts or ½ dia. bolts with ⁱ⁄₁₆ wall tubular pre-load spacer.

20-RC 9522



Use ⅝ dia. shoulder bolts or ½ dia. bolts with ⁱ⁄₁₆ wall tubular pre-load spacer.

20-RC 9179



This multi-purpose Vibro-Insulator is designed to support loads up to 750 lbs. in compression. Our standard for the 9179 is 60 durometer natural rubber. It is also available in 40, 50, and 70 durometer.

Longwood is your vibration control specialist!

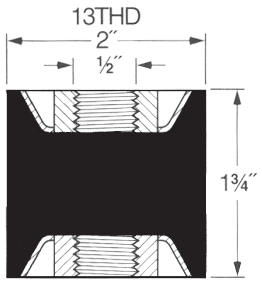
Call 1-800-829-7231 for additional assistance

VIBRATION & SHOCK MOUNTS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

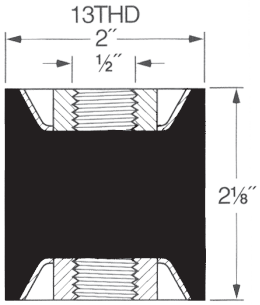
20-RC 9024



Specifications (compression)

Durometer	K Value (lbs./in.)	Max Recommended Deflection	Load (lbs.) @ Max Deflection
40	1500	.08″	120
50	2000	.08″	160
60	2800	.08″	225
70	6000	.08″	480

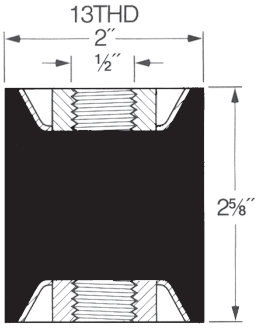
20-RC 9025



Specifications (compression)

Durometer	K Value (lbs./in.)	Max Recommended Deflection	Load (lbs.) @ Max Deflection
40	850	.12″	100
50	1100	.12″	135
60	1500	.12″	180
70	3400	.12″	400

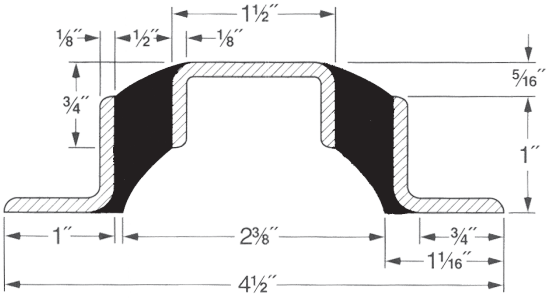
20-RC 9026

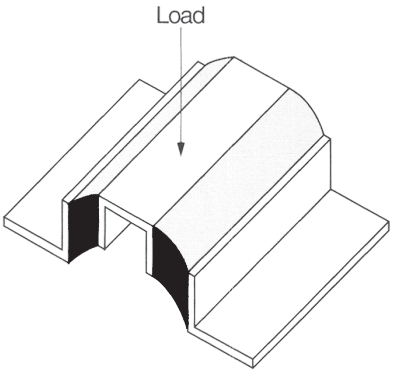


Specifications (compression)

Durometer	K Value (lbs./in.)	Max Recommended Deflection	Load (lbs.) @ Max Deflection
40	580	.16″	90
50	800	.16″	125
60	1000	.16″	160
70	2400	.16″	385

20-RC 9230





CONTINUOUS STRIP INSULATORS

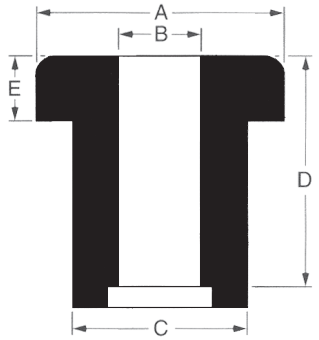
A continuous strip-type Vibro-Insulator having two rubber elements. This is the most popular form of Vibro-Insulator, capable of handling about 90% of all installations. In mounting, it is desirable to crowd the outer angle strips together so the rubber is slightly compressed.

Available in 2″, 3″, 4″, 6″, 12″, 20″, 24″, and 30″ lengths.

Longwood
Vibration & Shock Mounts

1-800-829-7231

ILLUSTRATIONS BELOW NOT TO SCALE

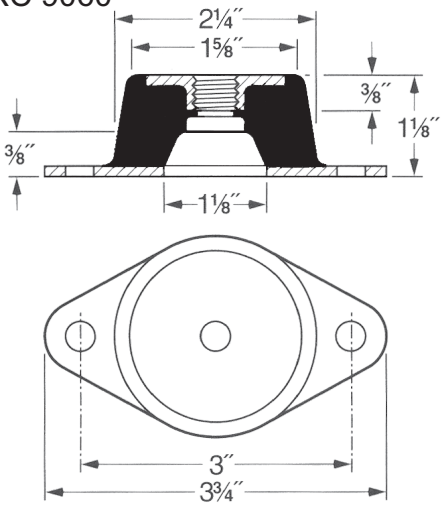


For effective multi-directional isolation of vibrations in applications involving pumps, engines, and compressors.

T-Type Multi-Directional Insulators—Dimensions (Compression)

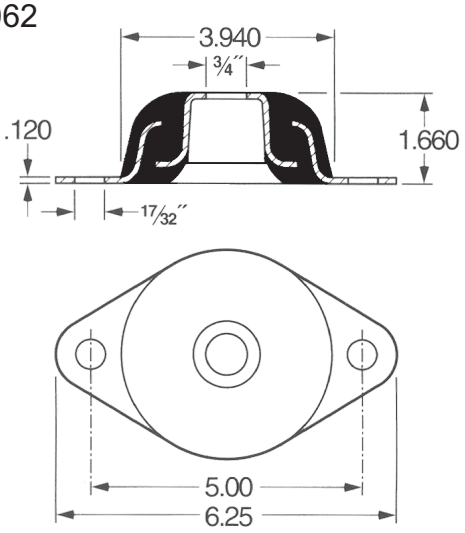
Part #	A	B	C	D	E
20-RC 9201	1.090	.400	.810	.690	.187
20-RC 9202	2.00	.640	1.350	1.812	.500
20-RC 9203	2.000	.640	1.350	1.810	.532
20-RC 9204	1.190	.530	1.31	1.312	.500
20-RC 9205	2.00	.530	1.350	1.375	.531
20-RC 9207	1.750	.530	1.120	1.120	.410
20-RC 9208	2.370	.640	1.500	1.500	.700
20-RC 9209	3.000	.640	1.990	2.000	.825

20-RC 9060



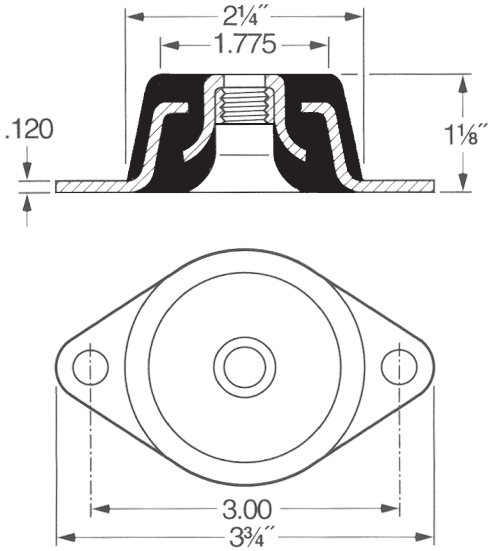
Available with ⅜-16 or ½-20 threads.
Also available with no threads.

20-RC 9062



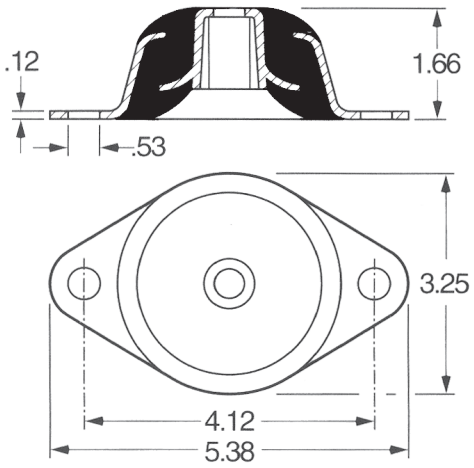
Available for either ⅝ or ¾ VNC bolt.

20-RC 9069



⅜-16 threads.

20-RC 9061



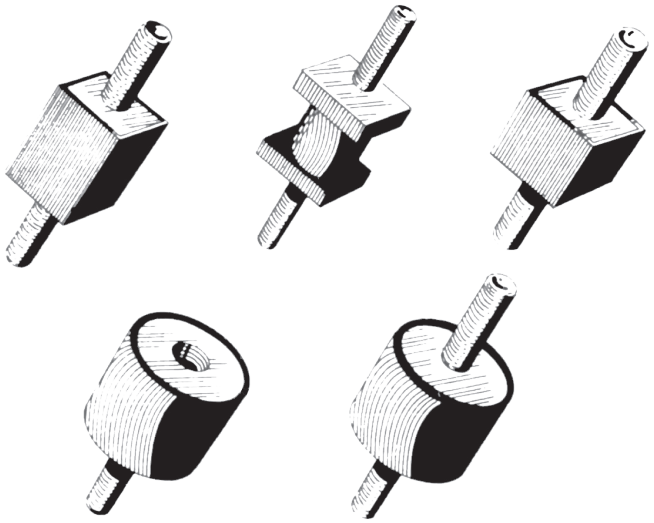
SMALL VIBRATION & SHOCK MOUNTS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

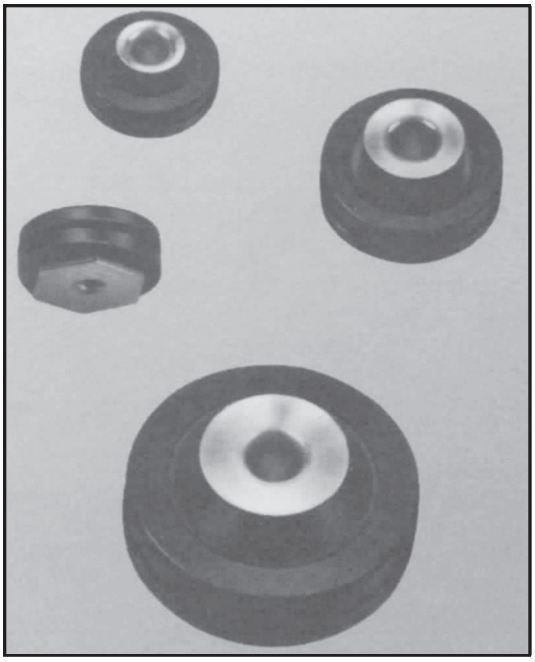
Typical Applications for Longwood mounts include:

- Compressors
- Pumps
- Blowers
- Fans
- Motors
- Air conditioning equipment
- Computers
- Electronic units
- Relays
- Timing devices
- Control panels
- Business machines
- Engine generator sets
- Motorcycles
- Small tillers & tampers
- Garden tractors & mowers
- Plant machinery
- Vibratory feeders



Features

- Reduce transmitted vibration from reciprocating or rotating equipment
- Prevent transmission of structure-borne noise
- Prevent damage to sensitive equipment from vibration and shock
- Low cost, lightweight, maintenance-free and easy to install
- Durable construction
- Can be loaded in compression or shear
- Available in a wide variety of styles, sizes, and load ranges



Standard Grommet Isolators

Neoprene and Natural Rubber

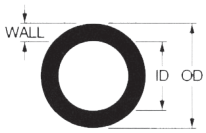
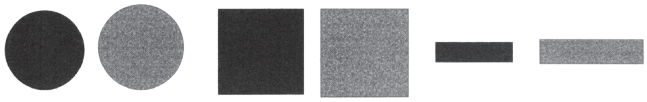
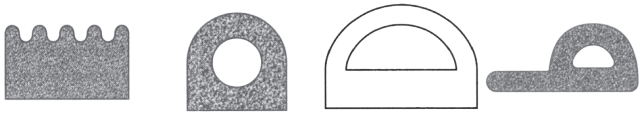
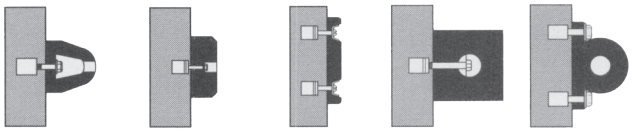
Grommet isolators give you low-cost, effective vibration isolation for light loads. They are used in commercial and military applications such as computers, EDP equipment, business machines, appliances, aerospace systems, and industrial equipment. They offer improved reliability for small units in applications such as:

- **Instruments**
- **Motors**
- **Fans**
- **Transponders**
- **Transducers**
- **Receivers**
- **Printed circuit boards**
- **Packaged networks**
- **Gauges and meters**
- **Warning devices**
- **Timing devices**
- **Potentiometers**

At rated load, these mounts provide good vibration isolation for disturbing frequencies above 30 Hz.

EXTRUSIONS

30-38

30	Tubing		Latex Neoprene TPR	Nylon Reinforced Clear Vinyl Polyethylene	Pg. 126
31	O-Ring Cord				Pg. 131
32	Locking Trim				Pg. 135
33	P-Strips				Pg. 139
34	U-Channels				Pg. 142
35	Weatherstripping				Pg. 147
36	T, H, L, E Strips				Pg. 150
37	Locking Channels				Pg. 154
38	Large Extrusions				Pg. 156

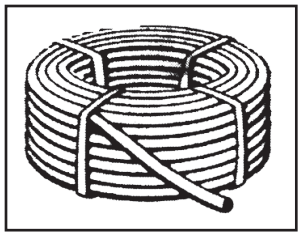
Longwood offers custom profiles and secondary fabrication!

Call: 1-800-829-7231 — or — Fax: 336-272-5619

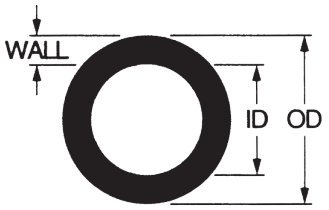
TUBING — 30 SERIES

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



Rubber Tubing (Neoprene— 70 Durometer)		
Part #	ID	OD
30-101	.250	.375
30-102	.250	.500
30-103	.375	.500
30-104	.375	.625
30-105	.500	.625
30-106	.500	.750
30-107	.750	1.00
30-108	1.00	1.25



We can furnish sizes not listed.

Thermoplastic Rubber Tubing					
Part #	ID	OD	Wall	Maximum Working psi @ 73ºF	Recommended Pressure* psi @ 180ºF
30-001	1/16	3/16	1/16	34	21
30-002	1/8	1/4	1/16	19	12
30-003	3/16	5/16	1/16	13	8
30-004	1/4	3/8	1/16	10	6
30-005	1/4	7/16	3/32	16	9
30-006	1/4	1/2	1/8	19	12
30-007	5/16	7/16	1/16	8	5
30-008	5/16	1/2	3/32	12	7
30-009	3/8	1/2	1/16	7	4
30-010	3/8	9/16	3/32	10	6
30-011	3/8	5/8	1/8	13	8
30-012	1/2	5/8	1/16	6	3
30-013	1/2	11/16	2/32	8	5
30-014	1/2	3/4	1/8	10	6
30-015	5/8	13/16	3/32	7	4
30-016	5/8	7/8	1/8	8	5
30-017	3/4	1	1/8	7	4
30-018	1	1 1/4	1/8	6	3

*Incorporates safety factor of 5:1 ratio of burst to recommended working pressures.

Vacuum Tubing			
Part #	ID	OD	Wall
30-200	1/8	3/8	1/8
20-201	3/16	9/16	3/16
30-202	1/4	5/8	3/16
20-203	5/16	13/16	1/4
30-204	3/8	1	5/16
30-205	5/8	1 3/8	3/8

Longwood's Extrusion Grade Thermoplastic Rubber

Longwood's extrusion grade thermoplastic rubber provides major benefits to users of tubing, hose, and gaskets, as well as to specifiers of profiles for a wide variety of applications, including automotive understood users.

Longwood furnishes tubing and profiles of its thermoplastic rubber in three grades, with Shore A hardnesses of 64 and 73, including a grade which meets FDA requirements.

When compared with the thermoset rubber polymers traditionally used in the industrial rubber products (IRP) market—polymers such as EPDM, polychloroprene (CR), and chlorosulfonated polyethylene (CSM)— thermoplastic rubber provides:

•A lower specific gravity, resulting in greater dollar savings per unit volume;

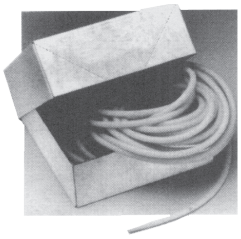
•Better mechanical properties, such as improved retention of tensile strength, ultimate elongation and modulus at 135ºC (275ºF), plus a lower percentage of swell;

•Superior resistance to fatigue, ozone, and ultraviolet when operating at temperatures from 275ºF to -60ºF;

•Generally desirable chemical resistance properties— strong and weak acids, strong and weak alkalies, water, and most oils and lubricants have no effect on Longwood thermoplastic rubber (although resistance to aromatic hydrocarbons is not good).

ILLUSTRATIONS BELOW NOT TO SCALE

Box Pack



Fifty feet to a reel. Tubing supplied in random lengths.

Natural Latex Tubing—Box Pack

Part #	ID	Wall	OD	Wt./Box
30-202	1/16	1/32	1/8	1 lb.
30-402	1/8	1/32	3/16	1 1/4 lb.
30-403	1/8	3/64	7/32	1 1/2 lb.
30-404	1/8	1/16	1/4	2 lb.
30-408	1/8	1/8	3/8	4 3/4 lb.
30-412	1/8	3/16	1/2	8 1/2 lb.
30-416*	1/8	1/4	5/8	7 lb.
30-503	5/32	3/64	1/4	1 3/4 lb.
30-602	3/16	1/32	1/4	1 1/2 lb.
30-604	3/16	1/16	5/16	2 1/2 lb.
30-606	3/16	3/32	3/8	4 1/4 lb.
30-608	3/16	1/8	7/16	6 lb.
30-802	1/4	1/32	5/16	1 1/2 lb.
30-804	1/4	1/16	3/8	3 1/4 lb.
30-806	1/4	3/32	7/16	5 lb.
30-808	1/4	1/8	1/2	7 lb.
30-812*	1/4	3/16	5/8	6 lb.
30-1004	5/16	1/16	7/16	4 lb.
30-1006	5/16	3/32	1/2	6 lb.
30-1008*	5/16	1/8	9/16	4 1/2 lb.
30-1012*	5/16	3/16	11/16	6 1/2 lb.
30-1204	3/8	1/16	1/2	4 1/2 lb.
30-1206*	3/8	3/32	9/16	3 1/2 lb.
30-1208*	3/8	1/8	5/8	4 1/2 lb.
30-1604*	1/2	1/16	5/8	3 1/4 lb.
30-1606*	1/2	3/32	11/16	4 3/4 lb.
30-1608*	1/2	1/8	3/4	6 lb.
30-2004*	5/8	1/16	3/4	4 lb.
30-2008*	5/8	1/8	7/8	7 lb.
30-2408*	3/4	1/8	1	8 1/2 lb.

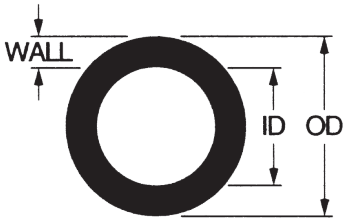
*Denotes 50´ per box. All others 100´ per box.

How to determine tubing sizes:

OD = 2 x Wall + ID

ID = OD - 2 x Wall

$$\text{Wall} = \frac{\text{OD} - \text{ID}}{2}$$



Call for quotation on:

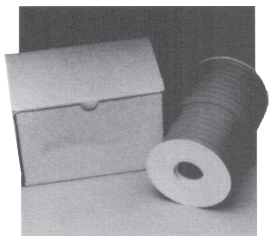
-Special sizes or tolerances

-Specific lengths & cut pieces

-Special colors

1-800-829-7231

Reel Pack



50´ or 100´ per box as indicated. Tubing supplied in random lengths.

Natural Latex Tubing—Reel Pack

Part #	ID	Wall	OD	Wt./Box
30-202RP	1/16	1/32	1/8	1/2 lb.
30-402RP	1/8	1/32	3/16	3/4 lb.
30-403RP	1/8	3/64	7/32	7/8 lb.
30-404RP	1/8	1/16	1/4	1 1/4 lb.
30-406RP	1/8	3/32	5/16	1 1/2 lb.
30-408RP	1/8	1/8	3/8	2 1/2 lb.
30-502RP	5/32	1/32	7/32	1/2 lb.
30-503RP	5/32	3/64	1/4	1 lb.
30-504RP	5/32	1/16	9/32	1 1/4 lb.
30-602RP	3/16	1/32	1/4	1 lb.
30-604RP	3/16	1/16	5/16	1 1/2 lb.
30-606RP	3/16	3/32	3/8	2 1/4 lb.
30-608RP	3/16	1/8	7/16	3 lb.
30-804RP	1/4	1/16	3/8	1 3/4 lb.
30-806RP	1/4	3/32	7/16	2 3/4 lb.
30-808RP	1/4	1/8	1/2	3 1/2 lb.
30-1004RP	5/16	1/16	7/16	2 1/4 lb.
30-1006RP	5/16	3/32	1/2	3 lb.

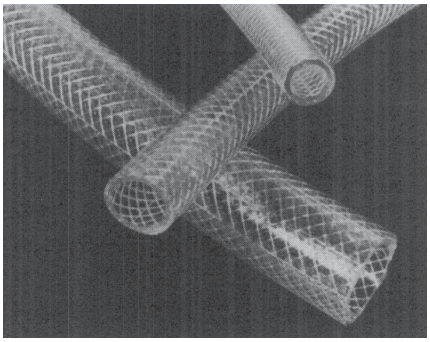
A reel contains 50 feet.

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Clear Vinyl Tubing with Nylon Reinforcement

Nylon braid reinforced vinyl tubing which will withstand four times the working pressure of conventional single wall. Vinyl made from non-toxic materials and is clear, taste and odor free.



APPLICATION:

Hydraulic lines	Plastic processing equipment
Pneumatic lines	Packaging equipment
Vacuum lines	Oil, fuel and water lines

PHYSICAL PROPERTIES:

Durometer Hardness (Shore A).....75±5
Specific Gravity.....1.28
Tensile Strength.....3035
Elongation.....330%
Operating Temperature Range.....-4 to 180˚F
Taste.....None
Toxicity.....Non-Toxic
Flammability.....Self-Extinguishing
Water Absorption.....0.5%/48 hrs. @ 50˚

CHEMICAL PROPERTIES:

Weak Acids .....Excellent
Strong Acids (except Chloric Acid).....Good
Weak Alkalies.....Excellent
Strong Alkalies.....Good
Ketones and Chlorinated Solvents.....Poor
Mineral Salts.....Excellent
Plating Solution.....Excellent
Water & Saltwater .....Excellent
Hydrocarbons and Alcohols.....Excellent

PACKAGING:

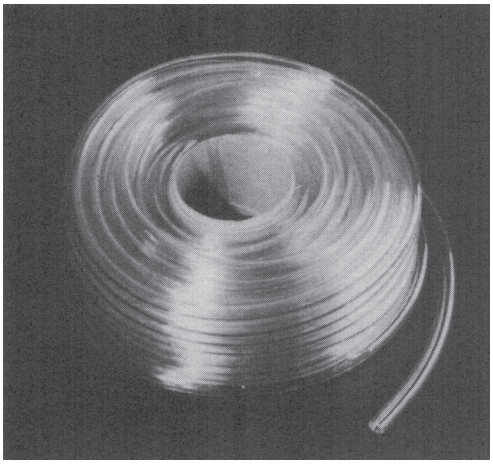
Available in boxes only

Braided Tubing

Part #	ID	OD	Tolerance	Coil Size Ft.	Working Pressure At 68˚F	Burst Pressure At 68˚F
30-B001	¼	.458	.023	100´	250	1000
30-B002	⅜	.608	.023	100´	250	1000
30-B003	½	.763	.023	100´	200	800
30-B004	⅝	.883	.023	100´	175	650
30-B005	¾	1.053	.025	100´	170	650
30-B006	1	1.293	.025	100´	170	450
30-B007	1 ¼	1.450	.025	50´	105	400
30-B008	1 ½	2.025	.025	50´	75	350
30-B009	2	2.510	.025	50´	75	320

NOTE: Use only insert type hose fitting with clamp. Maximum recommended pressures are calculated on test results, with a 3.1 safety factor. In critical applications a reduction of 25–30% of burst is suggested. As no guarantee of pressure is expressed or implied, Longwood will provide free sample for test.

ILLUSTRATIONS BELOW NOT TO SCALE



Clear Vinyl Tubing

Longwood clear vinyl tubing is a clear, flexible tubing of plasticized poly vinyl chloride. It has a wide range of chemical resistance. Its clarity permits visual checks on flow. Its smooth, hard bore prevents interior build-up, is easy to clean, and provides fine flow characteristics. It is flexible at 0˚F and available in continuous lengths.

APPLICATION:

Good oil resistance, excellent resistance to acids, alkalis, and many solvents except esters, ketones, and aromatic hydro-carbons. Non-toxic F.D.A. recipe for potable liquid.

PHYSICAL PROPERTIES:

Color.....Clear
Specific Gravity.....1.21
Tensile Strength.....1550 psi
Elongation.....365%
Durometer Shore A.....75±5
Brittle Point..... -35˚F
Toxicity.....Non-Toxic F.D.A.
Max. Operating Temp. .....80˚C (175˚F)

AVAILABLE PACKAGING:

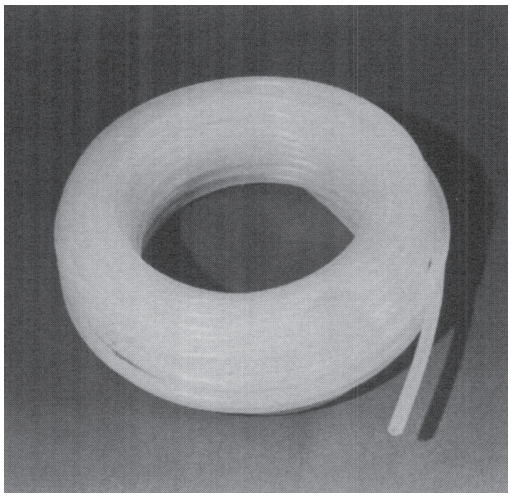
Pack "A" packed as listed below
Pack "B" packed as follows:
⅝ x ¾ — 50´
⅛ x ¼, 5⁄16 x 7⁄16 — 100´ spools
½ x ⅝ — 150´ spools
3⁄16 x 5⁄16, ¼ x ⅜, ⅜ x ½ — 200´ spools
500´ to 2000´ Starburst Reel/Ctn.—1⁄16 to ⅜ ID

Clear Vinyl Tubing

Part #	ID	OD	Wall	Working Pressure At 68˚F (psi)	Standard Pkg. "A"
30-V001	1⁄16	⅛	1⁄32	85	500´
30-V002	⅛	3⁄16	1⁄32	50	500´
30-V003	⅛	¼	1⁄16	60	100´
30-V004	3⁄16	5⁄16	1⁄16	60	100´
30-V004-1	3⁄16	¼	1⁄32	40	100´
30-V005	3⁄16	7⁄16	⅛	80	100´
30-V006	¼	⅜	1⁄16	55	100´
30-V007	¼	7⁄16	3⁄32	60	100´
30-V008	¼	½	⅛	70	100´
30-V009	5⁄16	7⁄16	1⁄16	50	100´
30-V010	5⁄16	½	3⁄32	60	100´
30-V010-1	5⁄16	9⁄16	⅛	60	100´
30-V011	⅜	½	1⁄16	45	100´
30-V012	⅜	9⁄16	3⁄32	55	100´
30-V013	⅜	⅝	⅛	65	100´
30-V014	7⁄16	9⁄16	1⁄16	40	100´
30-V015	7⁄16	⅝	3⁄32	45	100´
30-V015-1	7⁄16	11⁄16	⅛	50	100´
30-V016	½	⅝	1⁄16	30	100´
30-V016-1	½	11⁄16	3⁄32	35	100´
30-V017	½	¾	⅛	45	100´
30-V018	11⁄16	⅞	3⁄32	35	100´
30-V019	9⁄16	13⁄16	⅛	40	100´
30-V019-1	9⁄16	¾	3⁄32	35	100´
30-V020	⅝	¾	1⁄16	30	100´
30-V021	⅝	13⁄16	3⁄32	35	100´
30-V022	⅝	⅞	⅛	40	100´
30-V023	¾	⅞	1⁄16	25	100´
30-V023-1	¾	15⁄16	3⁄32	30	100´
30-V024	¾	1	⅛	35	100´
30-V025	⅞	1 ⅛	⅛	30	100´
30-V026	1	1 ¼	⅛	28	100´
30-V026-1	1	1 3⁄16	3⁄32	20	100´
30-V027	1 ¼	1 ¾	¼	45	50´
30-V028	1 ½	2	¼	40	50´
30-V029	1 ½	1 ⅞	3⁄16	35	50´
30-V030	2	2 ⅜	3⁄16	25	50´

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



Polyethylene Tubing

Longwood polyethylene low density is odorless and tasteless for handling critical solution or gases. The natural milky-white color allows the fluid level and flow to be seen. It is non-toxic F.D.A. and flexible. Excellent resistance to many acids and alkalies and most organic solutions.

APPLICATION:

Ideal for many solutions that cause polyethylene to stress-crack. Unaffected by most solvents at ambient temperatures. Will handle many organic chemicals that attack other plastics. Heat resistance approximately 60˚F higher than conventional polyethylene. Will handle solutions to 185˚F.

AVAILABLE PACKAGING:

Pack "A" packed as listed below.
Optional packaging as follows:

* Available in 500´
** Available in 25´ for icemaker kit
Available in 50´, 500´, 1000´

PHYSICAL PROPERTIES:

Density.....0.920
Melt Temperature.....270˚F
Elongation..... .550
Hardness.....45
Tensile Strength.....550
Burst Point.....3 times working psi

TOLERANCES:

¼″ — ⅜″ ±.006 ½″ — ⅝″ ±.010 ¾″ — 1″ ±.015

Polyethylene Tubing

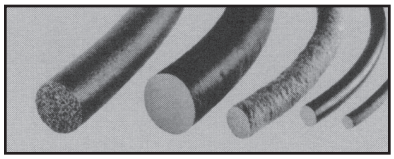
Part #	OD	ID	Wall	Working Pressure At 70˚F (psi)	Standard Pkg. "A"
30-P001*	⅛	1/16	1/32	100	250´
30-P002*	3/16	⅛	1/32	95	100´
30-P003*	¼	.170	.040	120	100´
30-P004*	¼	⅛	1/16	190	100´
30-P005*	5/16	3/16	1/16	150	100´
30-P006*	⅜	¼	1/16	125	100´
30-P007*	½	⅜	1/16	95	100´
30-P008	⅝	½	1/16	75	100´
30-P009	⅝	⅜	⅛	100	100´
30-P010	¾	⅝	1/16	70	100´
30-P011	¾	½	⅛	110	100´
30-P012	⅞	¾	1/16	60	100´
30-P013	⅞	⅝	⅛	100	100´
30-P014	1	⅞	1/16	60	100´
30-P015	1	¾	⅛	95	100´
30-P016	1 ¼	1	⅛	85	100´

PRECISION O-RING CORD STOCK — 31 SERIES

ILLUSTRATIONS BELOW NOT TO SCALE

Custom sizes and compounds are available!

Purchase Quantities	.070″ c/s– .313″ c/s	250- ft. rolls
	.375″ c/s– 1.00″ c/s	100- ft. rolls



Neoprene

Part #	Nominal Cross-Section	Actual Cross-Section
31-N070	1/16″	.070±.007
31-N093	3/32″	.125±.007 .103±.007
31-N125	1/8″	.125±.007 .139±.007
31-N188	3/16″	.188±.007 .210±.007
31-N250	1/4″	.250±.008 .275±.008
31-N313	5/16″	.313±.008
31-N375	3/8″	.375±.010
31-N437	7/16″	.437±.012
31-N500	1/2″	.500±.015
31-N625	5/8″	.625±.015
31-N750	3/4″	.750±.020

Longwood neoprene resistance to oils, sunlight, and aging is good.

Service Temperature:
-40˚F to +250˚F

Compound meets:
MIL-R-3065-Grade SC715 E_1, E_3 F_1; ASTM-D2000 3BC-715 A_{14} B_{14} EO_{14} EO_{34} F_{17}

BUNA-N

Part #	Nominal Cross-Section	Actual Cross-Section
31-B070	1/16″	.070±.007
31-B093	3/32″	.125±.007 .103±.007
31-B125	1/8″	.125±.007 .139±.007
31-B188	3/16″	.188±.007 .210±.007
31-B250	1/4″	.250±.008 .275±.008
31-B313	5/16″	.313±.008
31-B375	3/8″	.375±.010
31-B437	7/16″	.437±.012
31-B500	1/2″	.500±.015
31-B625	5/8″	.625±.015
31-B750	3/4″	.750±.020

Longwood BUNA-N has excellent resistance to petroleum, oils, and gasolines. Resistance to hydrocarbons, acids, and bases is good.

Service Temperature:
-40˚F to +250˚F

Compound meets:
MIL-R-3065-Grade SB 715 BE_1 E_3 F_1; ASTM-D2000 5BG-715 A_{14} B_{14} EO_{14} EO_{34} F_{17}

Silicone

Part #	Nominal Cross-Section	Actual Cross-Section
31-S070	1/16″	.070±.007
31-S093	3/32″	.125±.007 .103±.007
31-S125	1/8″	.125±.007 .139±.007
31-S188	3/16″	.188±.007 .210±.007
31-S250	1/4″	.250±.008 .275±.008
31-S313	5/16″	.313±.008
31-S375	3/8″	.375±.010
31-S437	7/16″	.437±.012
31-S500	1/2″	.500±.015
31-S625	5/8″	.625±.015
31-S750	3/4″	.750±.020

Longwood silicone cord has good resistance to solvents, fuels, and oils. It resists compression set and retains properties.

Service Temperature:
-100˚F to +550˚F

Compound meets:
ZZ-R-765-B Class 2a Grade 70; ASTM-D2000 7GE 707 A_{19} B_{37} EO_{16} F_{19}

EPDM

Part #	Nominal Cross-Section	Actual Cross-Section
31-E070	1/16″	.070±.007
31-E093	3/32″	.125±.007 .103±.007
31-E125	1/8″	.125±.007 .139±.007
31-E188	3/16″	.188±.007 .210±.007
31-E250	1/4″	.250±.008 .275±.008
31-E313	5/16″	.313±.008
31-E375	3/8″	.375±.010
31-E437	7/16″	.437±.012
31-E500	1/2″	.500±.015
31-E625	5/8″	.625±.015
31-E750	3/4″	.750±.020

Longwood EPDM cord provides excellent resistance to the deteriorative effects of ozone, oxygen, weather, heat, and most chemicals.

Service Temperature:
-40˚F to +250˚F and intermittent +300˚F

Compound meets:
ASTM-D2000 3BA-715 A_{14} B_{13} C_{12} F_{17}

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Solid Square "O" Ring Cord
BUNA-N

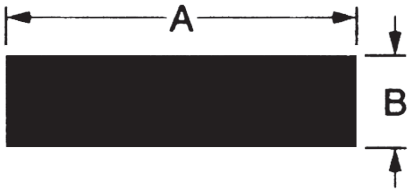
Many static seal applications have utilized a square-section gasket in place of the standard "O" ring. Longwood has produced square "O" ring cord to satisfy these application requirements. Standard 70 Durometer. Other Durometers available.

Solid Square Cord BUNA-N			
Part #	O-Ring Size	Fractional Size	Square Size
31-2305	.103 c/s	3⁄32″	.098
31-5025	.139 c/s	1⁄8″	.133
31-1405	.210 c/s	3⁄16″	.202
31-1956	.275 c/s	1⁄4″	.264
31-2286	.313 c/s	5⁄16″	.313
31-1446	.375 c/s	3⁄8″	.375
31-1485	.500 c/s	1⁄2″	.500
31-1388	.625 c/s	5⁄8″	.625
31-3758	.750 c/s	3⁄4″	.750

Custom-extruded profiles are available!

Large - or - Small

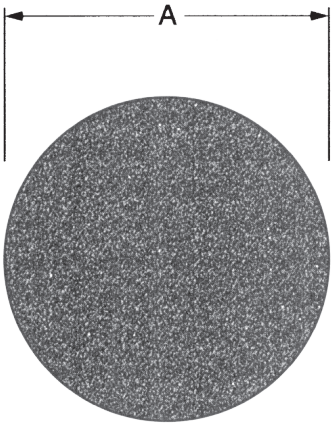
1-800-829-7231



Rectangular Cord Neoprene—60 Durometer		
Part #	A	B
31-2763	.250	.125
31-3940	.500	.125
31-2272	.500	.188
31-3999	.375	.250
31-4730	.500	.250
31-3929	.750	.250
31-2556	.500	.375
31-1442	.750	.500

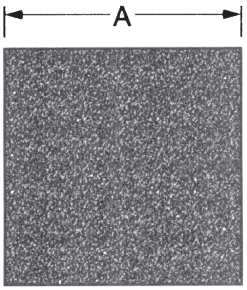
SPONGE CORD STOCK

ILLUSTRATIONS BELOW NOT TO SCALE



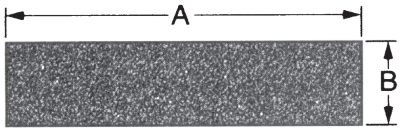
SPONGE RUBBER

Cord Neoprene—EPDM—Silicone	
Part #	**A**
31-SP250	.250
31-SP375	.375
31-SP500	.500
31-SP625	.625
31-SP750	.750



SPONGE RUBBER

Square Neoprene—EPDM—Silicone	
Part #	**A**
31-4708	.250
31-4709	.375
31-4710	.500
31-4711	.625



SPONGE RUBBER

Rectangular Neoprene—EPDM—Silicone		
Part #	**A**	**B**
31-3252	.250	.125
31-4016	.375	.125
31-4729	.500	.125
31-2820	.375	.250
31-4017	.500	.250
31-2850	.500	.375
31-4102	.750	.500

PSA backing available for sponge extrusions!

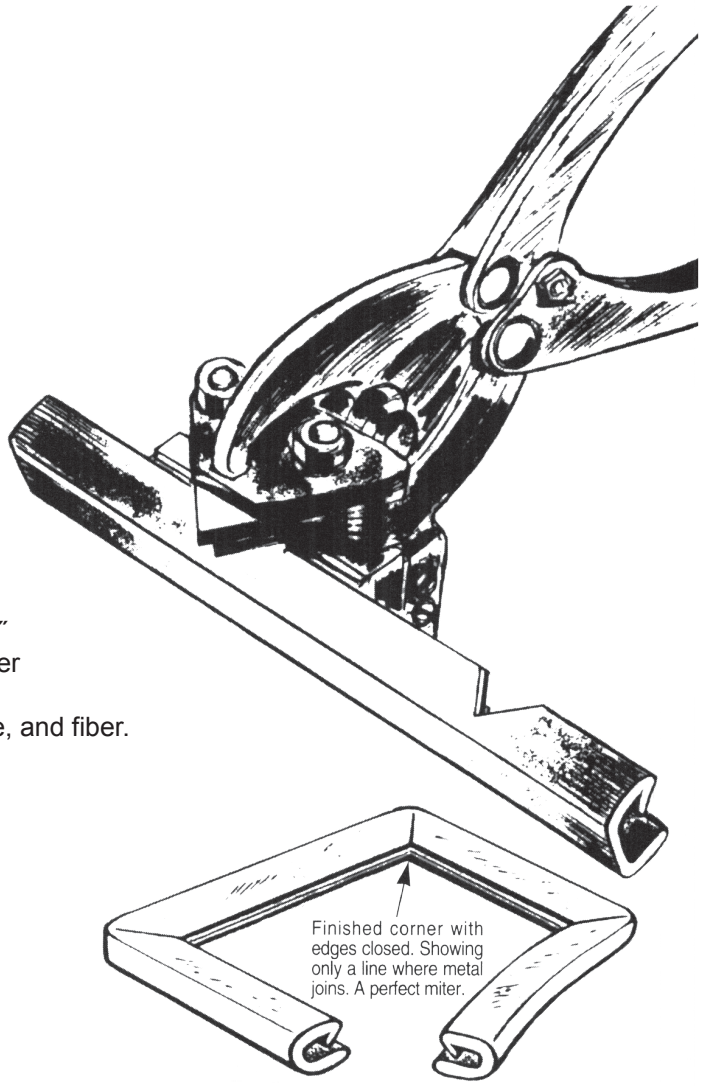
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

THE EASE AND PRECISION OF A MACHINE OPERATION...IN YOUR SHOP OR JOB

The 90˚ MITER-TOOL from Longwood will pay for itself in one day in time saved. With proper use, it is unconditionally guaranteed. THE tool with craftsmanship and knowledge of metalworking needs behind it. Punches and dies are hardened and ground tool steel capable of cutting non-hardened steel up to 1⁄16″. A built-in 15:1 pressure ratio reduces amazingly clean and accurate cuts to nothing more than a mere squeeze of the handles.

Perfect miter with a 90˚ MITER-TOOL



Available in two sizes:

32-T01 For trims with openings less than 1⁄8″
32-T02 For trims with openings 1⁄8″ and larger

Miters, notches, and trims metal, plastic, tile, and fiber.

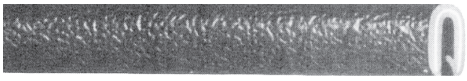
Call 1-800-829-7231 to order

ILLUSTRATIONS BELOW NOT TO SCALE

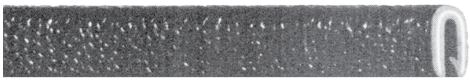
CRAFTLOCK

PVC with metal insert!

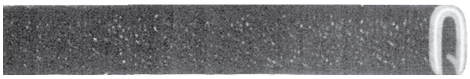
Available Textures



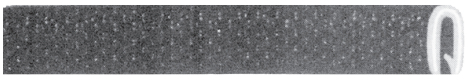
(1) Coarse Pebble



(2) Leather



(3) Fine Pebble



(4) Basket Weave

(7) Fine Sand

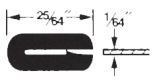
PHYSICAL PROPERTIES:

Vinyl (PVC) outer coating, embossed extrusion
- Durometer Hardness (Shore A).....80
- Temperature Range
- Constant Exposure.....-20˚F to +160˚F
- Temperature Range
- Intermittent Exposure.....-50˚F to +200˚F

Craft-Seal (Bulb & Glue) Temperature Range
- Neoprene Bulb.....-18˚F to +200˚F
- Cyanoacrylate Glue.....-20˚F to +175˚F

Internal Metal Clips
- Aluminum..... .024″ thick, #3004 H18, full-hard
- Steel..... .018″ thick, #2 temper, cold-rolled

Note: Coil lengths are 250 feet. Other sizes available on request. Other colors available on request. Special cross sections available on request.



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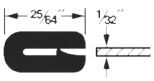

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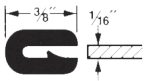

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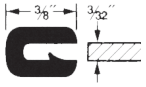

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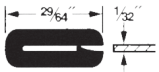

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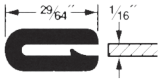

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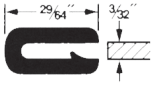

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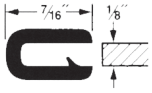

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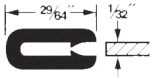

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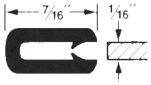

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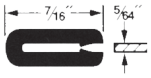

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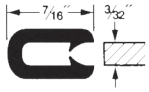

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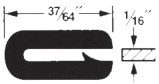

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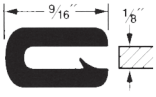

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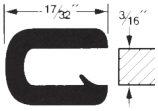

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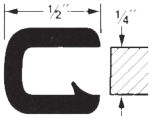

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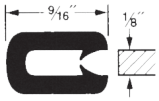

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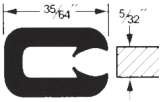

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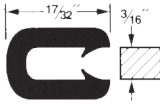

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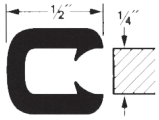

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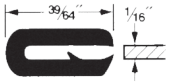

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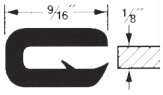

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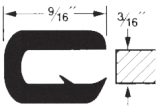

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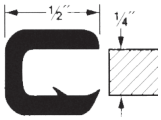

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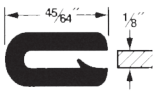

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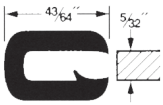

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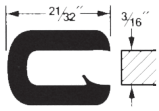

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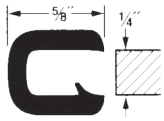

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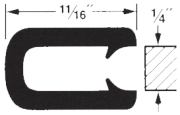

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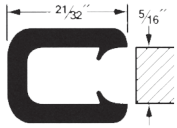

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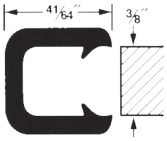

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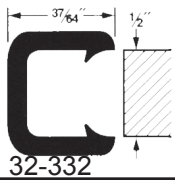

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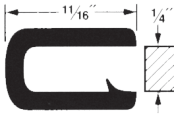

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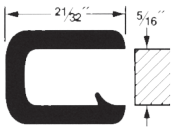

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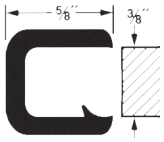

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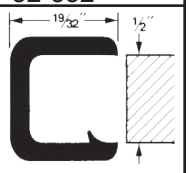
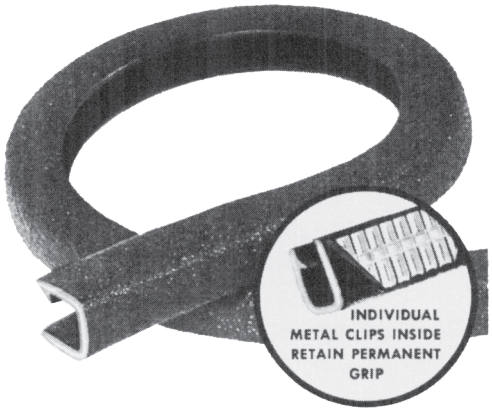


32-336

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

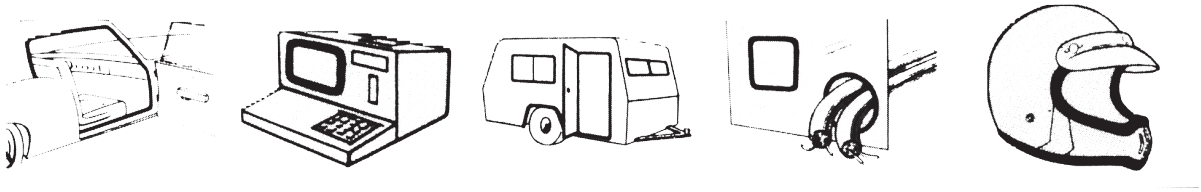


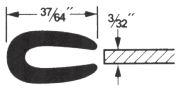
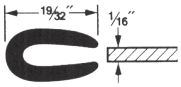
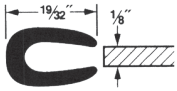
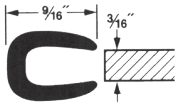
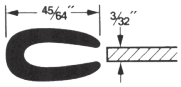
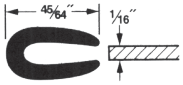
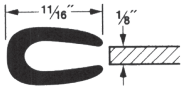
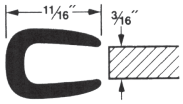
CRAFTLOCK

Just push CRAFTLOCK on and it's on to stay...no stapling or glue...saves on labor...grips on difficult materials and curves...available with an aluminum inner core for corrosion resistance, light weight, and ease of handling.

Use on edges for decoration or protection.

Some Applications...



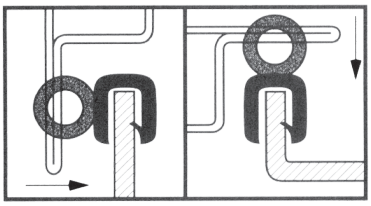
32-201 	32-202 	32-203 	32-204 
32-205 	32-206 	32-207 	32-208 

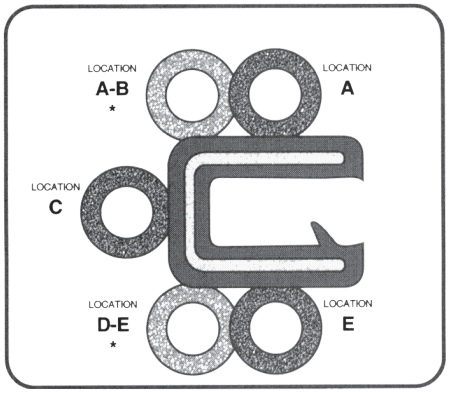
ILLUSTRATIONS BELOW NOT TO SCALE

CRAFTSEAL

Sponge Rubber Bulb!

A TYPICAL APPLICATION





***Special Order Only (Non-Returnable)**

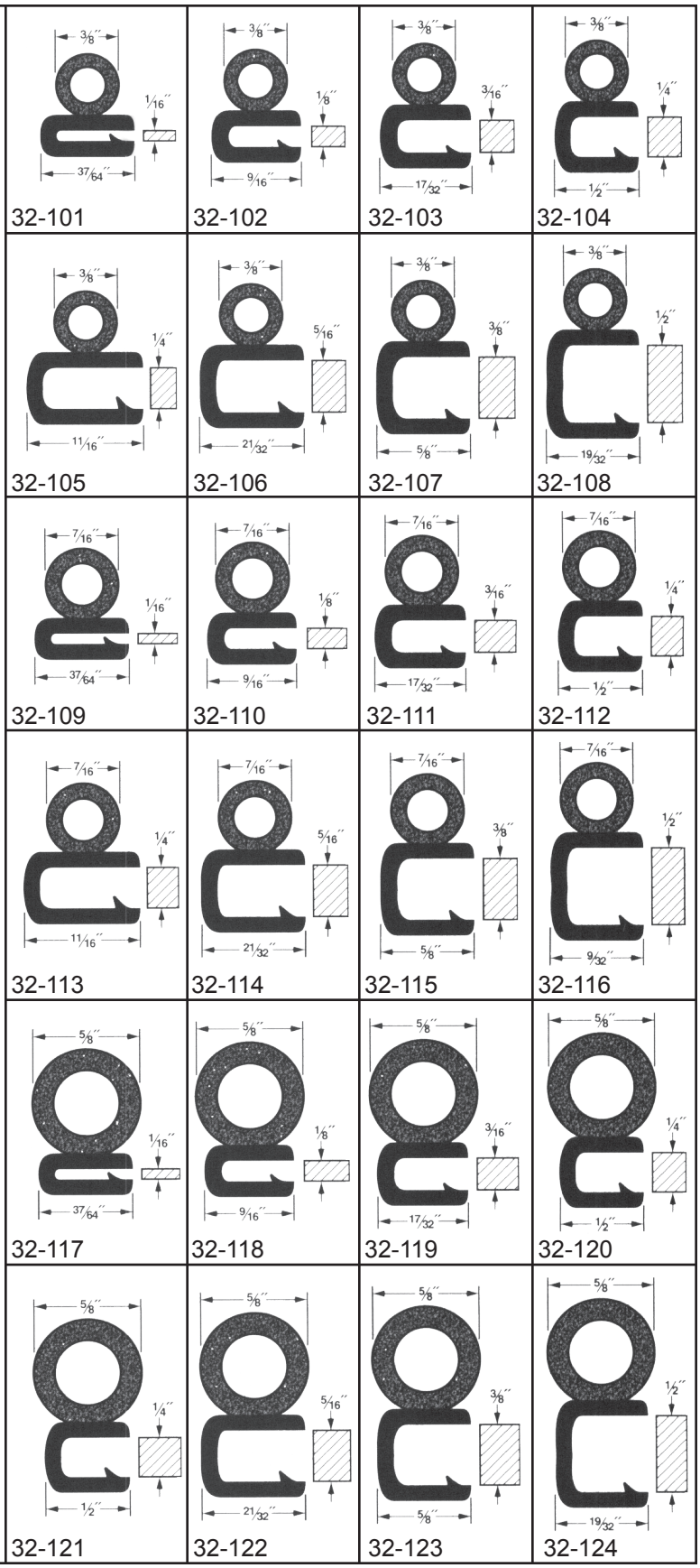
Note: Other bulb sizes available on special request (special pricing & quantities applicable).

***Sponge Rubber Bulb Resistance to:**

Oil & Gasoline.....Good
Water Absorption....Excellent
Ozone.....Excellent
Sunlight Aging.....Excellent
Low Temperature....Excellent
Compression Set....Excellent

***Neoprene/EPDM Rubber Compound**

Dimensions shown are approximations for reference only.

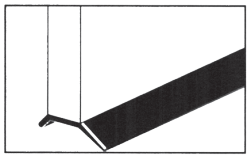


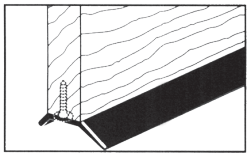
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

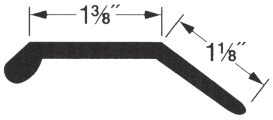
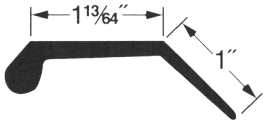
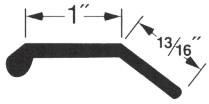
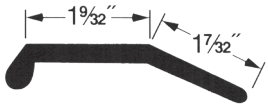
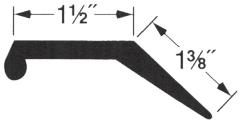
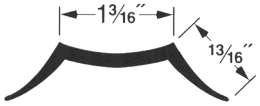
Solid Rubber Longwood Garage Door Seals

Virtually indestructible! Effectively seals out rain, snow, dust, sand, and drafts. Long-lasting, solid black rubber material absorbs shock—doesn't soften on the hottest days and retains flexible sealing qualities at sub-zero temperatures.





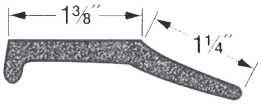
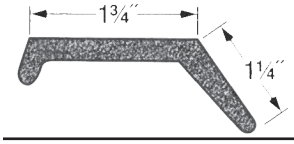
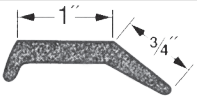
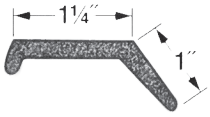
Solid Rubber Garage Door Seals

	Part #	Ft. per Carton	# of Lengths per Carton	Approx. Ship Wt. Lbs.
	32-801	48	6	18
	32-802	72	8	20
	32-803	200	2	37
	32-804	200	2	77
	32-805	200	2	84
	32-806	200	2	48

Sponge Garage Door Seals

Closed-cell sponge interior and tough exterior provide a durable but flexible seal.

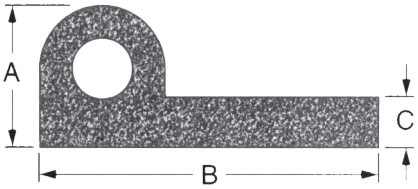
Sponge Garage Door Seals

	Part #	Ft. per Carton	# of Lengths per Carton	Approx. Ship Wt. Lbs.
	32-807	200	2	17
	32-808	200	2	23
	32-809	200	2	21
	32-810	200	2	20

Only high-quality compounds are used!

1-800-829-7231

ILLUSTRATIONS BELOW NOT TO SCALE



Sponge P-Strips			
Part #	A	B	C
33-200	.50	1.25	.12
33-201	.62	1.50	.19
33-202	.75	1.75	.25

Sponge P-Strips

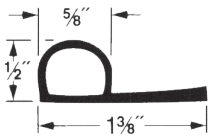
Perfect for weatherstripping & sealing. Available with PSA backing.

Door Seals

Use on domestic and commercial refrigeration, vending units, disposers, reach-ins, hang-on doors, and food containers. NSF seal of approval.

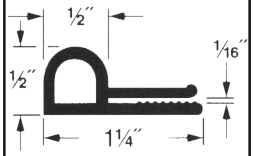
Call 1-800-829-7231 for custom extrusions!

33-300



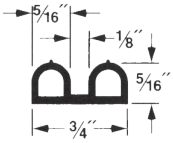
Vinyl

33-301



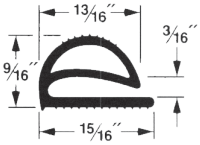
Rubber

33-302



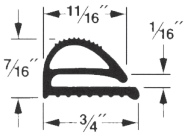
Rubber

33-303



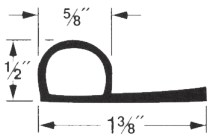
Vinyl

33-304



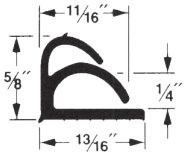
Vinyl

33-305



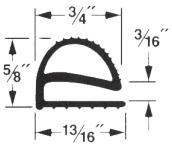
Vinyl

33-306



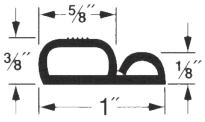
Rubber

33-307



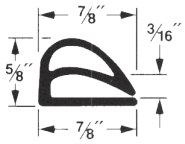
Vinyl

33-308



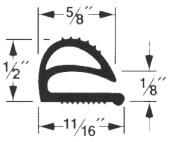
Rubber

33-309



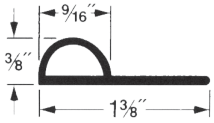
Vinyl

33-310



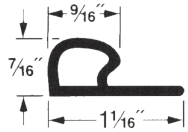
Vinyl

33-313



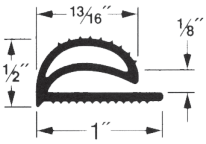
Rubber

33-314



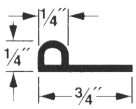
Rubber

33-315



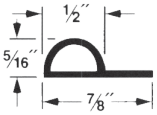
Vinyl

33-316



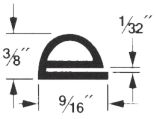
Rubber

33-318



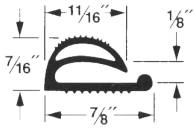
Rubber

33-320



Vinyl

33-321

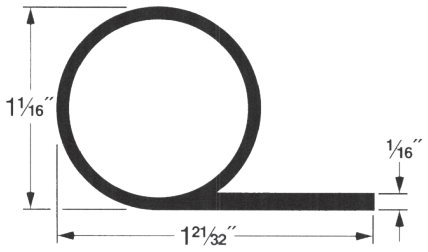


Vinyl

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

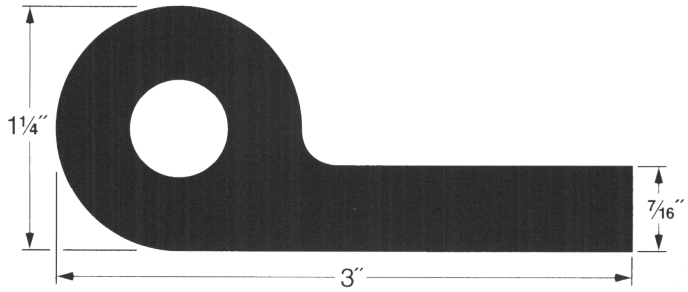
33-108



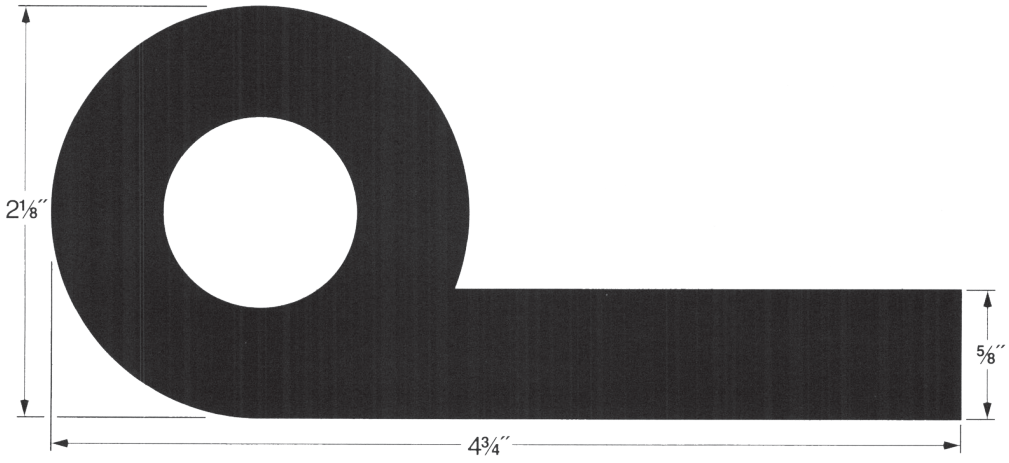
If you need a P-Strip not listed, fax a sketch or print and Longwood will quote on custom tooling.

Fax: 336-272-5619

33-109

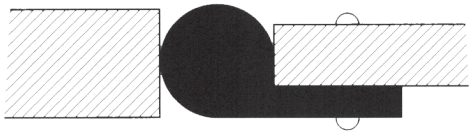


33-110

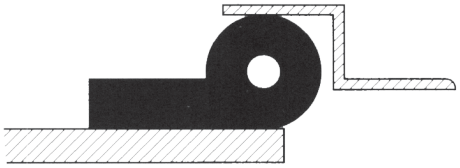


ILLUSTRATIONS BELOW NOT TO SCALE

Typical Applications

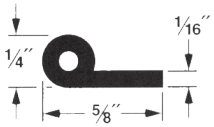


BUMPER

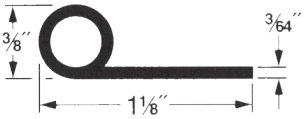


SEAL

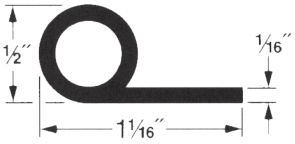
33-101



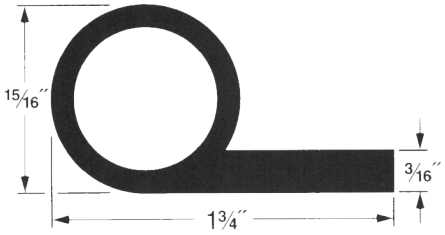
33-102



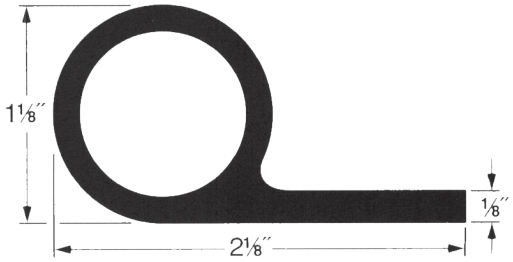
33-103



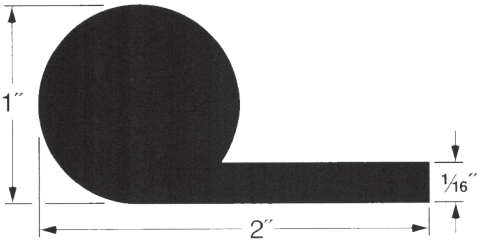
33-104



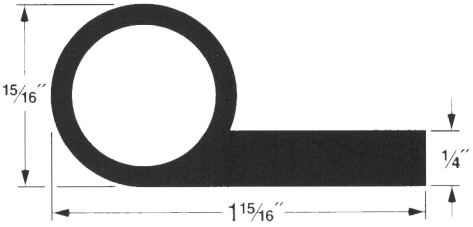
33-105



33-106



33-107

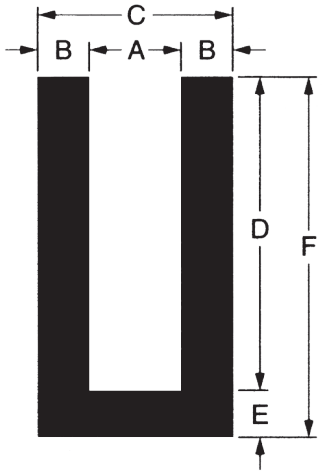


Continuous cure & autoclave processes used!

U-CHANNELS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



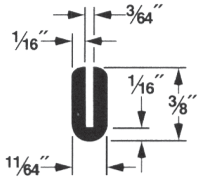
RUBBER

U-Channels

Part #	A Slot Width	B Leg Width	C Overall Width	D Slot Depth	E Base Depth	F Overall Depth
34-101	1/32	1/32	3/32	3/16	1/32	7/32
34-102	1/32	1/16	5/32	5/32	1/32	3/16
34-103	1/32	1/8	9/32	9/32	3/32	3/8
34-104	1/32	5/32	11/32	1/2	3/16	11/16
34-105	3/64	1/32	7/64	1/8	1/32	5/32
34-106	3/64	1/32	7/64	1/8	1/32	5/32
34-107	3/64	1/16	11/64	5/16	1/16	3/8
34-108	3/64	1/16	13/64	19/64	5/64	3/8
34-109	3/64	7/64	17/64	9/32	3/32	3/8
34-110	1/16	1/32	1/8	5/32	1/32	3/16
34-111	1/16	1/32	1/8	13/64	1/16	17/64
34-112	1/16	1/32	1/8	21/64	3/64	3/8
34-113	1/16	3/64	5/32	5/32	5/64	15/64
34-114	1/16	1/16	3/16	1/8	1/8	1/4
34-115	1/16	1/16	3/16	5/16	1/16	3/8
34-116	1/16	1/16	3/16	5/16	1/16	3/8
34-117	1/16	1/8	5/16	3/8	5/32	17/32
34-118	5/64	1/16	13/64	5/16	1/16	3/8
34-119	3/32	3/64	3/16	17/64	3/64	5/16
34-120	3/32	1/16	7/32	1/8	1/16	3/16
34-121	3/32	1/16	7/32	1/4	1/16	5/16
34-122	3/32	1/16	7/32	1/4	1/16	5/16
34-123	3/32	5/64	1/4	7/16	3/16	5/8
34-124	7/64	1/16	15/64	17/64	*	27/64
34-125	1/8	1/32	3/16	7/16	1/16	1/2
34-126	1/8	3/64	7/32	11/64	3/64	7/32
34-127	1/8	3/64	7/32	13/64	3/64	1/4
34-128	1/8	1/16	1/4	1/4	1/16	5/16
34-129	1/8	1/16	1/4	1/4	1/16	5/16
34-130	1/8	1/16	1/4	1/2	1/16	9/16
34-131	1/8	1/16	1/4	9/16	1/16	5/8
34-132	1/8	1/16	1/2	1/2	1/8	5/8
34-133	1/8	3/32	5/16	9/32	3/32	3/8
34-134	1/8	3/32	5/16	3/8	1/8	1/2
34-135	1/8	3/32	5/16	13/32	3/32	1/2
34-136	1/8	1/8	3/8	3/8	1/8	1/2
34-137	1/8	7/32	9/16	23/32	9/32	1
34-138	3/16	1/16	5/16	1/4	1/16	5/16
34-139	3/16	1/16	5/16	3/8	1/16	7/16
34-140	3/16	3/32	3/8	1/2	*	3/4
34-141	3/16	1/8	7/16	3/8	1/8	1/2
34-142	1/4	1/16	3/8	7/32	1/16	9/32
34-143	1/4	1/16	3/8	5/16	1/16	3/8
34-144	1/4	1/16	3/8	3/8	1/8	1/2
34-145	1/4	1/8	1/2	1/2	1/8	5/8

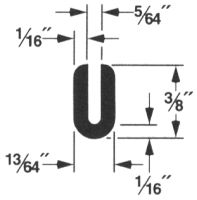
ILLUSTRATIONS BELOW NOT TO SCALE

34-200



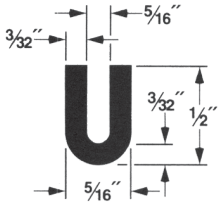
RUBBER

34-201



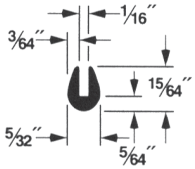
RUBBER

34-202



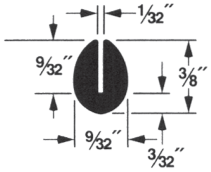
RUBBER

34-203



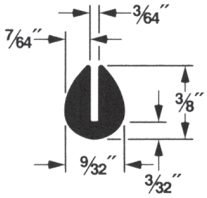
RUBBER

34-204



RUBBER

34-205



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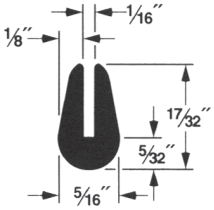
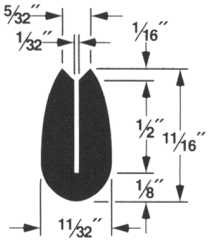
34-206



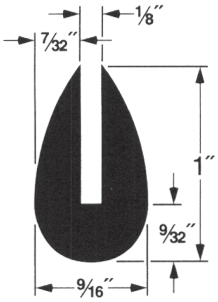
RUBBER

34-207



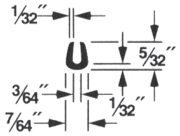
RUBBER

34-208



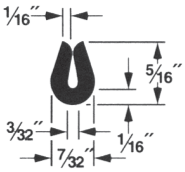
RUBBER

34-209



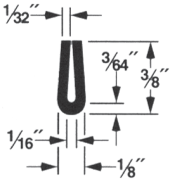
RUBBER

34-210



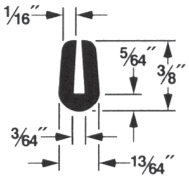
RUBBER

34-211



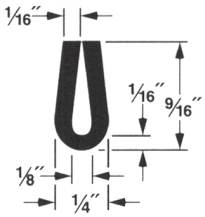
RUBBER

34-212



RUBBER

34-213



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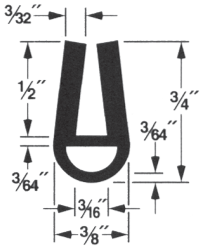
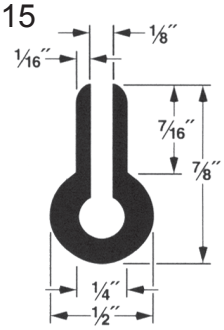
34-214



RUBBER

34-215



RUBBER

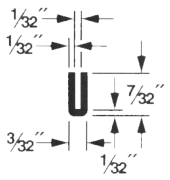
Call: 1-800-829-7231 — OR — Fax: 336-272-5619

U-CHANNELS

LONGWOOD

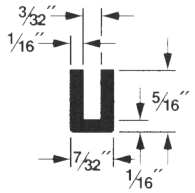
ILLUSTRATIONS BELOW NOT TO SCALE

34-220



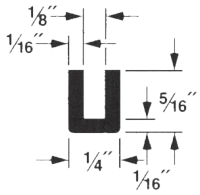
RUBBER

34-221



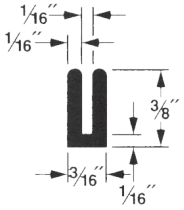
RUBBER

34-222



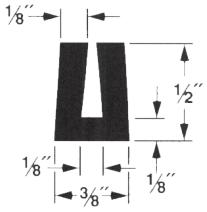
RUBBER

34-223



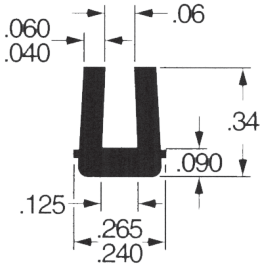
RUBBER

34-224



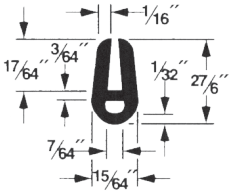
RUBBER

34-225



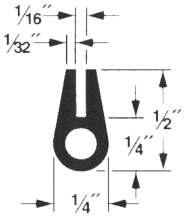
RUBBER

34-226



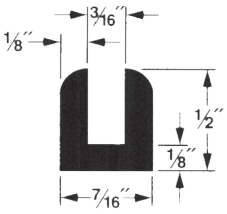
RUBBER

34-227



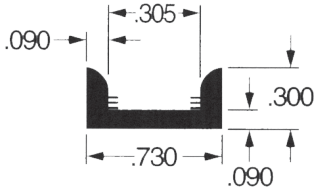
RUBBER

34-228



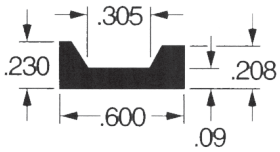
RUBBER

34-229



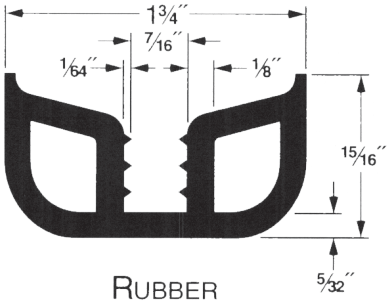
RUBBER

34-230



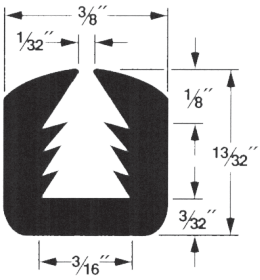
RUBBER

34-231



RUBBER

34-232

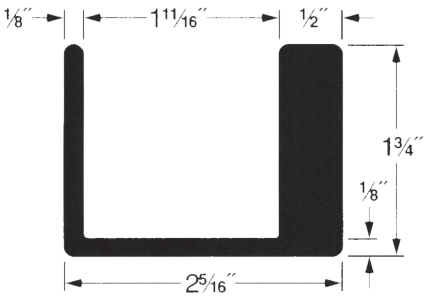


RUBBER

Call: 1-800-829-7231 — OR — Fax: 336-272-5619

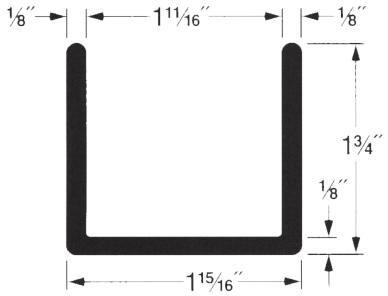
ILLUSTRATIONS BELOW NOT TO SCALE

34-8005



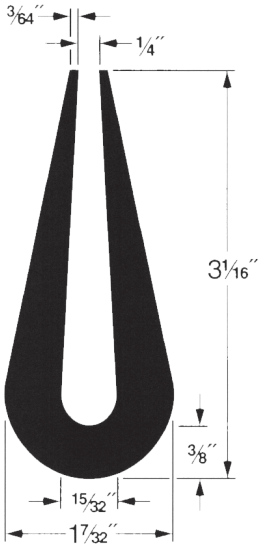
RUBBER

34-8011



RUBBER

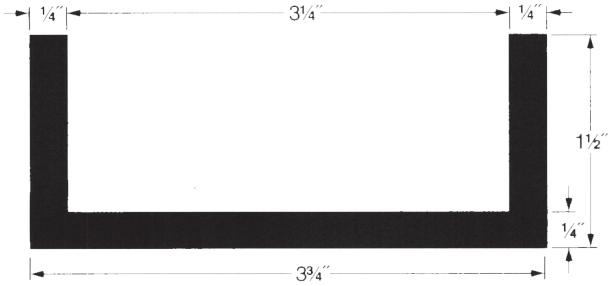
34-8003



RUBBER

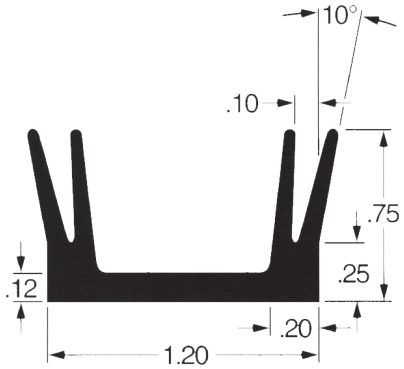
Longwood also offers secondary operations for extrusions—splicing, corner molding, slitting, hole punching, custom lengths, and more...

34-8004



RUBBER

34-3879R



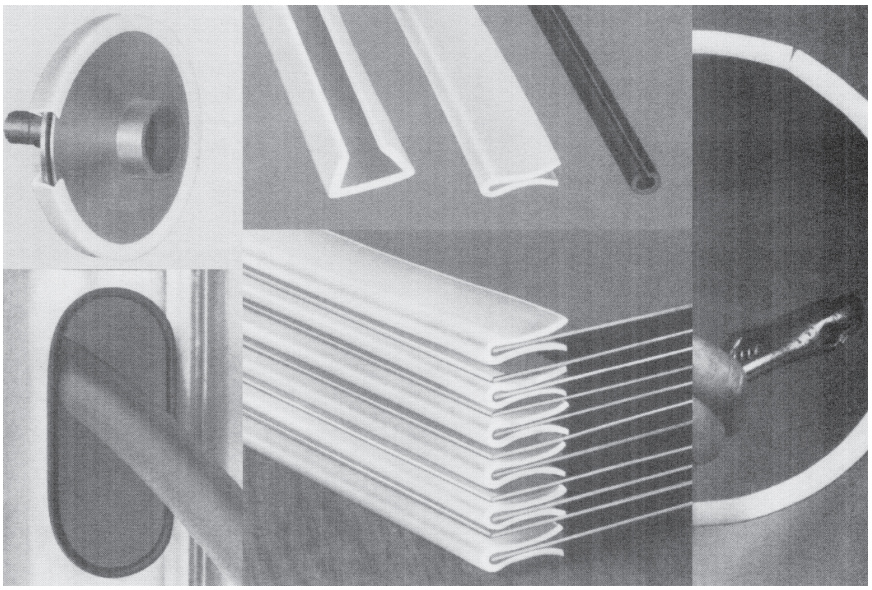
RUBBER

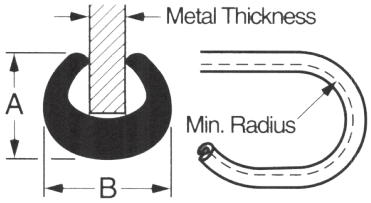
EDGE LINERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Longwood Edge Liner offers a convenient method for covering the sharp edge of large or irregularly shaped holes in sheet metal. It is pressed in place around the perimeter of the hole. Series 34-6000 is designed specifically to provide spacers when stacking sheet metal or board to protect the face of the sheet against scratches, allow for air circulation between sheets, and protect workers' hands against sharp edges.

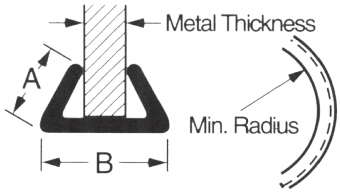




PLASTIC

Edge Liners—High Density Polyethylene (Black)

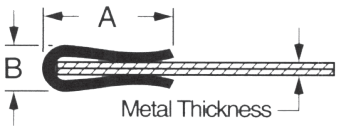
Part #	Metal Thickness	A	B	Min. Radius	Shipping Weight	Length
34-6000	.05 – .08	.13	.17	.75	3	500
34-6001	.07 – .12	.16	.22	1.00	6	500



PLASTIC

Edge Liners—FlexTemp (Natural)

Part #	Metal Thickness	A	B	Min. Radius	Shipping Weight	Length
34-6002	.13 – .28	.27	.42	2.0	7	250
34-6003	.25 – .50	.40	.68	2.5	8	125
34-6004	.38 – .75	.46	.93	3.0	8	100



PLASTIC

Edge Liners—Low Density Polyethylene (Natural)

Part #	Metal Thickness	A	B	Min. Radius	Shipping Weight	Length
34-6005	.01 – .12	.65	.26	—	15	500
34-6006	.11 – .18	1.00	.34	—	14	250

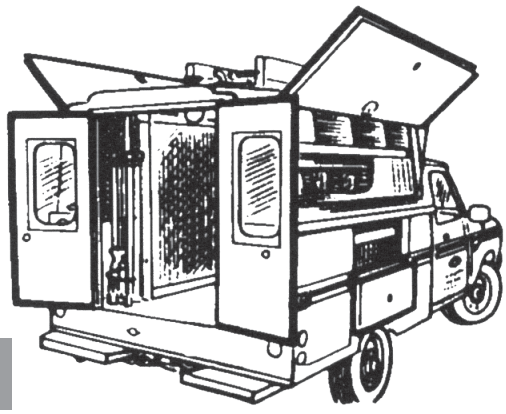
For small holes, see Section 11 — Molded Grommets

LONGWOOD

SPONGE WEATHERSTRIP

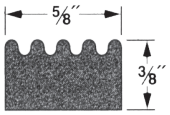
ILLUSTRATIONS BELOW NOT TO SCALE

Longwood Seals are used in a variety of products and product lines to provide protection, beauty, and sealing of doors, hatches, or compartments.

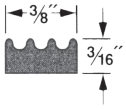


Closed-cell sponge with or without PSA backing

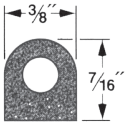
35-100



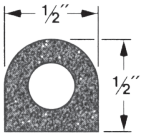
35-101



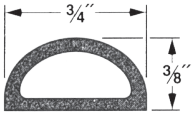
35-102



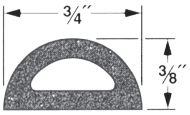
35-103



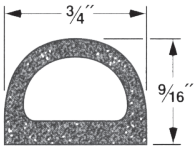
35-104



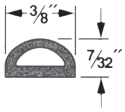
35-105



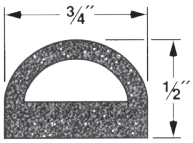
35-106



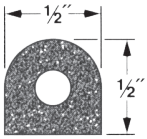
35-107



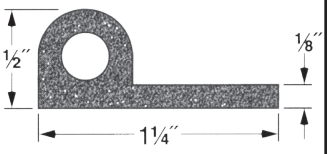
35-108



35-109

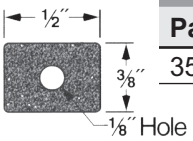


35-110



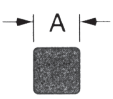
Tubing

Part #	O.D.
35-111	3/8
35-112	7/16
35-113	5/8
35-114	3/4



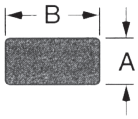
Rectangle

Part #	Size
35-115	1/2 x 3/8



Solid Square

Part #	Size
35-116	1/4
35-117	3/8
35-118	1/2
35-119	5/8



Solid Rectangle

Part #	A	B
35-120	1/4	1/2
35-121	3/8	1/2
35-122	1/4	3/4
35-123	1/2	3/4

Installation

All Longwood Seal products sold with “High-performance” pressure-sensitive adhesive are subject to the following requirements:

A. Application area must be clean of any contaminants.

B. Do not apply to any surface when temperatures are below 60˚F, as the adhesive may fail to perform properly.

C. Apply Longwood Seal without stretching.

Adhesive backed Longwood seals provide low-cost installation in any application. Simply peel back the cover strip, exposing the pressure-sensitive adhesive and apply where desired.

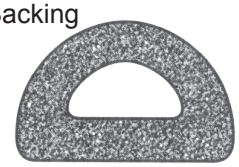
See Section 40 for sponge strips with PSA backing.

SPONGE WEATHERSTRIP

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

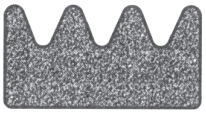
35-300
"D" Section
PSA Backing



3/16″ X 5/16″

300´ per box

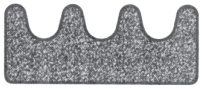
35-301
Ribbed Section
PSA Backing



3/16″ X 3/8″

300´ per box

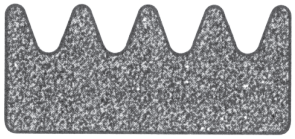
35-302
Ribbed Section
PSA Backing



1/8″ X 5/16″

400´ per box

35-303
Ribbed Section
PSA Backing



5/16″ X 5/8″

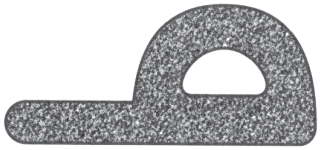
100´ per box

Call: 1-800-829-7231

— or —

Fax: 336-272-5619

35-304
"P" Section
PSA Backing



3/16″ X 5/16″

300´ per box

PHYSICAL PROPERTIES:

- Made of closed-cell EPDM sponge rubber
- Fiberglass reinforced
- Self-sticking
- Ozone- and sunlight-resistant
- Soft at low temperatures
- Does not absorb water
- Standard colors are black and gray. Other colors are available on special order

TYPICAL APPLICATIONS:

- Closure seals for doors and windows
- Environmental seals for metal and wood cabinets, cushions, pads, and bumper strips

Pressure Sensitive Adhesive (PSA)

Bulk-packaged in dispenser box!

Also see Section 46 — STRIPS

ILLUSTRATIONS BELOW NOT TO SCALE

Silicone resists the extremes!

“The engineer’s choice for reliability”

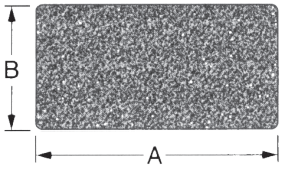
Engineers have long chosen silicone rubber as the material that provides the best reliability of performance under a wide range of difficult service conditions. Silicone’s resistance to extremes of heat and/or cold, ultraviolet light, moisture, chemical attack, ozone, and other elements is well documented. It’s unmatched by any other elastomer!

Because of its reliability over the longer period of time, silicone becomes a more “cost-effective” application when labor cost factors of fabrication, maintenance, and installation are considered. It’s a versatile product. **Silicone can be used for gasketing, sealing, cushioning, edging, jointing, and insulating.**

Silicone is available from Longwood in a variety of standard dies. Additional dies may be available according to your requirements.

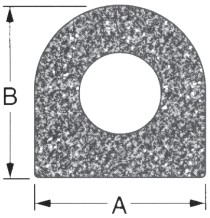
PSA backing eliminates screws, pins, and other mechanical fasteners!

Also available in NEOPRENE & EPDM



Rectangles

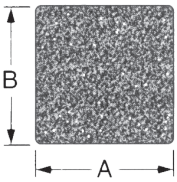
Part #	A	B
35-201	.500	.250
35-202	.500	.125
35-203	.500	.375
35-204	.250	.125
35-205	.750	.375



“D” Section (w/ hole)

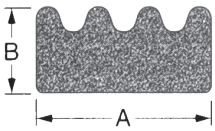
Part #	A	B
35-206	.3125	.1875
35-207	.500	.500

Also available in NEOPRENE & EPDM



Squares

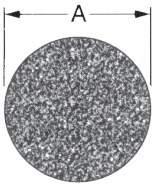
Part #	A	B
35-208	.500	.500
35-209	.375	.375
35-210	.250	.250



Ribbed Sections

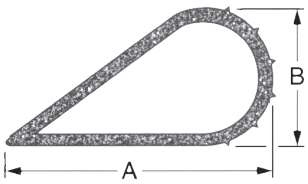
Part #	A	B
35-211	.375	.187
35-212	.625	.312
35-213	.312	.125

Also available in NEOPRENE & EPDM



Cords

Part #	A
35-214	.3750
35-215	.2500
35-216	.1870
35-217	.1250
35-218	.5000
35-219	.3125



Teardrop

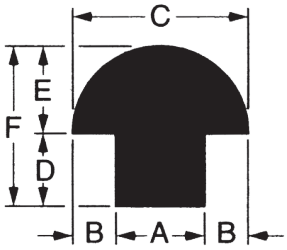
Part #	A	B
35-220	.500	.250

EXTRUDED "T" STRIPS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

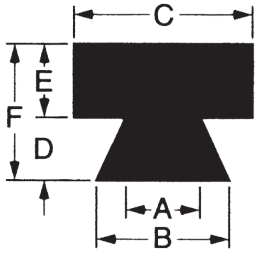
Half-Round Top



RUBBER

Extruded "T" Strips—Half-Round Top						
Part #	A	B	C	D	E	F
36-100	1/32	3/64	1/8	5/64	1/16	9/64
36-101	3/64	1/8	5/16	1/2	5/32	21/32
36-102	3/64	1/8	5/16	1	5/32	1 5/32
36-103	1/16	1/8	5/16	1/4	5/32	13/32
36-104	1/16	11/32	3/4	5/8	1/8	3/4
36-105	3/32	13/64	1/2	1/8	1/8	1/4
36-106	3/32	13/64	1/2	1/8	1/4	3/8
36-107	1/8	3/16	1/2	1/4	1/4	1/2
36-108	1/8	5/16	3/4	5/8	1/4	7/8
36-109	1/8	5/16	3/4	5/8	1/8	3/4
36-110	1/8	7/16	1	2	1/8	2 1/8
36-111	3/16	5/32	1/2	1/4	1/4	1/2
36-112	3/16	13/32	1	1/2	3/16	11/16
36-113	1/4	3/16	5/8	1 1/1	3/8	1 5/8
36-114	3/4	1/8	1	3/8	1/4	5/8

Wedge Base



RUBBER

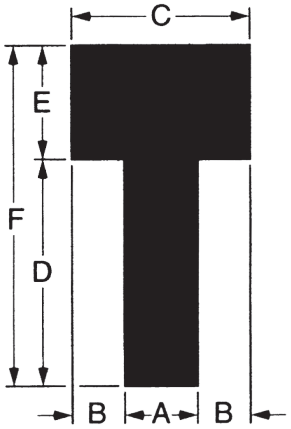
Extruded "T" Strips—Wedge Base						
Part #	A	B	C	D	E	F
36-115	3/32	7/64	19/64	1/16	3/32	5/32
36-116	***1/8	5/32	15/32	3/16	1/8	5/16
36-117	1/8	3/16	7/16	1/8	1/8	1/4
36-118	3/16	1/4	3/4	1/4	1/8	3/8
36-119	1/4	3/8	1/2	7/64	1/8	15/64
36-120	7/16	17/32	47/64	7/64	1/8	15/64
36-121	1/2	5/8	1	1/4	1/4	1/2
36-122	1/4	3/4	1	3/8	1/2	7/8
36-123	5/16	3/8	3/8	1/4	1/16	5/16
36-124	5/16	3/8	1/2	1/8	3/8	1/2
36-125	5/16	1/2	15/16	5/16	1/4	9/16
36-126	5/16	1/2	1-3/16	5/16	1/4	9/16
36-127	5/16	1/2	2	5/16	1/4	9/16
36-128	*21/64	29/64	3/4	5/16	7/32	17/32
36-129	**5/8	13/16	1-5/16	3/16	3/16	3/8
36-130	**1	1-1/4	1-1/2	5/16	1/2	13/16

*Base Corners Radial **Top Corners Radial ***Top Corners Chamfer 1/16 x 45˚

EXTRUDED "T" STRIPS

ILLUSTRATIONS BELOW NOT TO SCALE

"T" Strips



RUBBER

Extruded "T" Strips—All Corners Square						
Part #	A	B	C	D	E	F
36-131	1/16	1/16	3/16	3/16	3/8	9/16
36-132	1/16	3/32	1/4	11/64	3/32	17/64
36-133	1/16	3/32	1/4	3/16	3/32	9/32
36-134	1/16	1/8	5/16	1/4	1/16	5/16
36-135	1/16	1/8	5/16	7/16	1/16	1/2
36-136	1/16	1/8	5/16	1 5/16	1/16	1 3/8
36-137	1/16	7/32	1/2	5/32	5/32	5/16
36-138	5/64	9/64	3/8	3/32	7/32	5/16
36-139	3/32	21/64	3/4	21/32	3/32	3/4
36-140	3/32	9/64	3/8	1/8	1/16	3/16
36-141	3/32	1/16	7/32	17/32	3/16	23/32
36-142	7/64	1/8	23/64	45/64	7/64	13/16
36-143	1/8	1/8	3/8	1/8	1/8	1/4
36-144	1/8	3/16	1/2	1/8	1/8	1/4
36-145	1/8	5/32	7/16	1/8	1/8	1/4
36-146	1/8	5/32	7/16	7/32	3/16	13/32
36-147	1/8	3/16	1/2	1	1/4	1 1/4
36-148	1/8	17/32	1 3/16	7/8	1/8	1
36-149	5/32	3/64	1/4	5/16	1/2	13/16
36-150	5/32	3/32	11/32	5/16	3/16	1/2
36-151	5/32	1/16	9/32	5/8	3/16	13/16
36-152	13/64	3/64	19/64	23/64	9/64	1/2
36-153	1/4	3/16	5/8	1/4	1/4	1/2
36-154	1/4	3/32	7/16	5/32	3/32	1/4
36-155	1/4	3/32	7/16	5/32	3/16	11/32
36-156	1/4	5/16	7/8	9/32	9/32	9/16
36-157	5/16	1/16	7/16	1/4	1/16	5/16
36-158	3/8	1/8	5/8	5/64	1/16	9/64
36-159	1/2	1/4	1	1/4	3/8	5/8
36-160	3/4	3/16	1 1/8	7/16	3/16	5/8
36-161	3/4	1/4	1 1/4	13/64	1/8	21/64
36-162	1	1/4	1 1/2	3/4	1/4	1
36-163	1	1/4	1 1/2	1/8	1/8	1/4
36-164	1	1/4	1 1/2	3/4	1/4	1
36-165	1	3/8	1 3/4	1/4	1/4	1/2
36-166	1 1/4	5/8	2 1/2	1 1/16	1	2 1/16
36-167	1 1/2	1/4	2	1/2	5/8	1 1/8
36-168	2 1/4	1/4	2 3/4	1/2	5/8	1 1/8

Longwood can extrude custom profiles!

1-800-829-7231

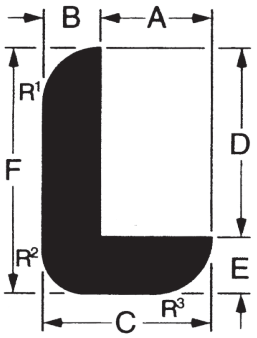
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

“H” Channels

Extruded “H” Channels—Straight Sides							
Part #	A	B	C	D	E	F	Radius
36-200	1/32	1/8	9/32	3/32	3/32	9/32	1/8
36-201	1/32	7/64	1/4	21/32	3/16	1 1/2	7/64
36-202	3/64	5/64	3/16	7/64	3/64	1/4	1/16
36-203	3/64	11/64	3/8	3/8	1/8	7/8	—
36-204	1/16	1/16	3/16	9/64	13/32	11/16	—
36-205	1/16	1/8	5/16	1/8	1/8	3/8	—
36-206	3/32	5/64	1/4	5/32	1/16	3/8	—
36-207	3/32	5/64	1/4	17/64	3/32	5/8	—
36-208	3/32	3/16	15/32	1/2	5/8	1 5/8	3/16
36-209	1/8	1/16	1/4	1/8	1/8	3/8	—
36-210	1/8	7/16	1	1/2	1 1/2	2 1/2	—
36-211	5/32	5/64	5/16	3/16	1/8	1/2	—
36-212	3/16	1/8	7/16	3/16	1/16	7/16	1/16
36-213	3/16	1/8	7/16	29/32	3/16	2	1/8
36-214	3/16	1/8	7/16	59/64	7/32	2 1/6	1/8
36-215	1/4	1/8	1/2	3/16	1/16	7/16	1/8
36-216	1/4	1/4	3/4	1/4	1/4	3/4	—
36-217	1/4	1/4	3/4	1	3/8	2 3/8	—
36-218	1/4	1/8	1/2	5/16	1/8	3/4	3/32
36-219	1/4	1/8	1/2	3/8	1/4	1	1/16
36-220	1/4	1/4	3/4	1/2	1/4	1 1/4	1/8

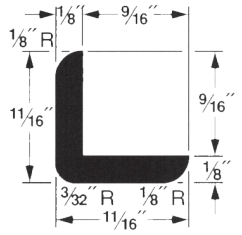
“L” Strips



Extruded “L” Strips—Outside Corners Radial									
Part #	A	B	C	D	E	F	R^1	R^2	R^3
36-300	1/16	1/16	1/8	5/8	1/8	3/4	—	—	1/8
36-301	1/8	1/16	3/16	5/8	1/8	3/4	—	—	1/8
36-302	1/8	5/64	13/64	7/16	1/4	11/16	—	—	7/32
36-303	1/8	1/4	3/8	1/2	1/4	3/4	—	—	1/4
36-304	3/16	1/4	7/16	1 3/4	3/16	1 15/16	3/16	3/16	1/8
36-305	5/16	9/16	7/8	11/16	5/16	1	—	—	5/16
36-306	3/8	1/8	1/2	5/32	5/32	5/16	—	—	5/32
36-307	3/8	1/8	1/2	3/4	5/16	1 1/16	—	—	5/16
36-308	9/16	1/8	11/16	9/16	1/8	11/16	1/8	3/32	1/8
36-309	1	1/8	1 1/8	1	1/8	1 1/8	1/8	3/32	1/8
36-310	1 3/8	1/8	1 1/2	2 7/8	1/8	3	1/4	3/32	—

ILLUSTRATIONS BELOW NOT TO SCALE

36-311



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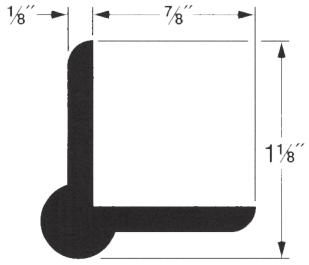

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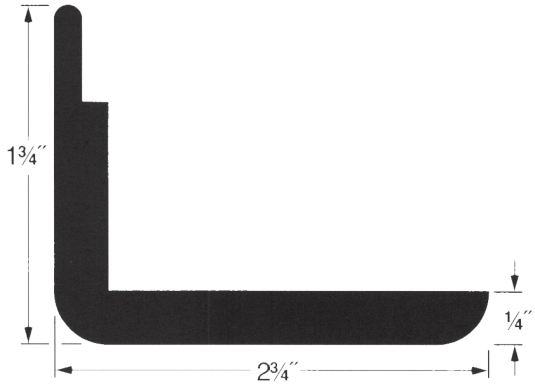

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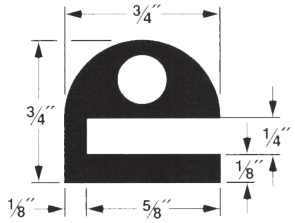

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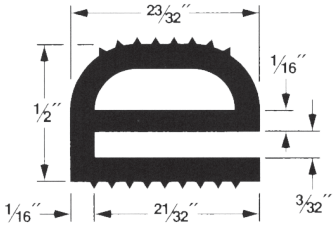

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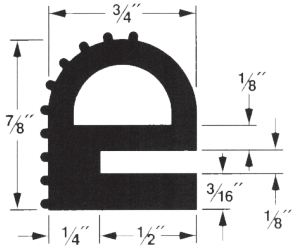

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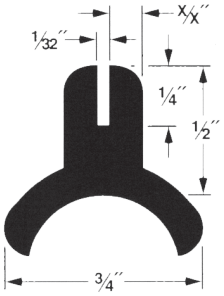

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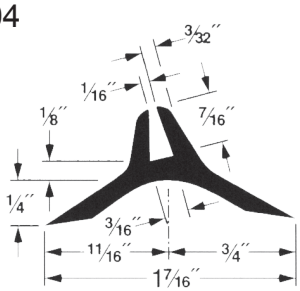

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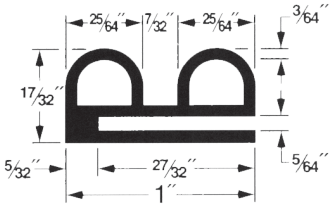

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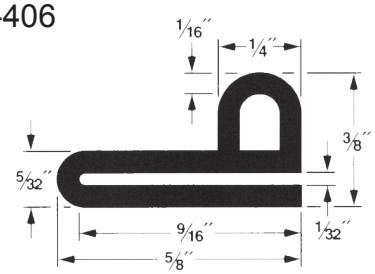

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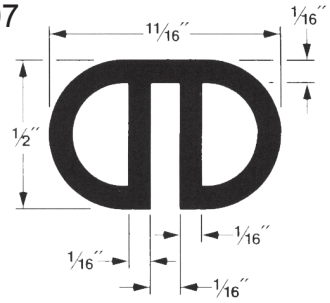

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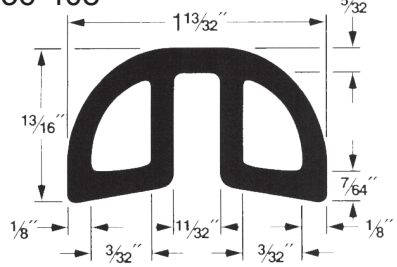

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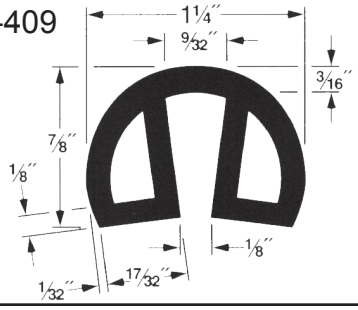


Call: 1-800-829-7231
— or —
Fax to: 336-272-5619

LOCKING CHANNELS

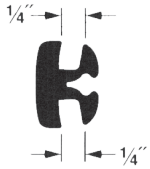
LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Longwood's one- and two-piece Self-Sealing Weatherstrips provide inexpensive fixed-window installation. They are easy to install, lock the glass in place, and give an efficient seal. These weatherstrips are available in 50 ft. coils. Exact lengths from 12″ to 144″ are available on special quotation.

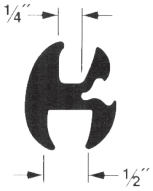
*Designates two-piece system

*37-612



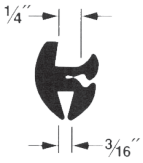
*37-613

*37-614



*37-615

*37-616



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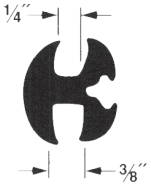

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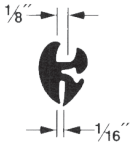


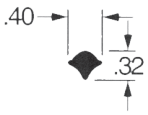
*37-619

Longwood offers:

-Custom Molding
-Splicing
-Custom Compounds

Lock strips for 2-piece weatherstrips
37-700, 37-701, 37-703, and 37-704 are interchangeable

37-700



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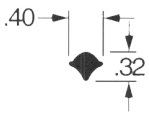

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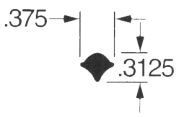

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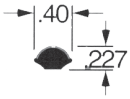

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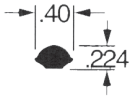

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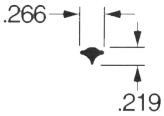
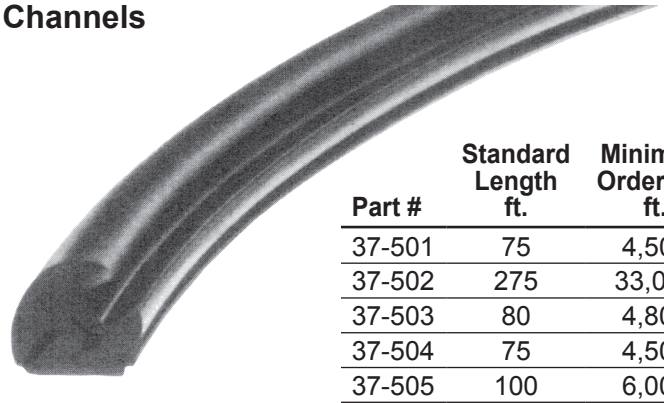


ILLUSTRATIONS BELOW NOT TO SCALE

Longwood Vehicular Locking Channels

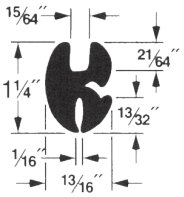
Applications:
Used as a weather sealant around all types of tractor, truck, recreational vehicle, bus and automobile glass.

Features:
Simplified body and quick, clean, easy installation combine for permanent weather-proofing at lower cost. Available in various cross sections in lengths up to and including 275 feet.



Part #	Standard Length ft.	Minimum Order Qty ft.	Weight lbs/ft.
37-501	75	4,500	0.297
37-502	275	33,000	0.034
37-503	80	4,800	0.263
37-504	75	4,500	0.290
37-505	100	6,000	0.153
37-506	75	4,500	0.311

37-501



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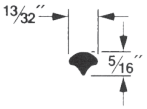

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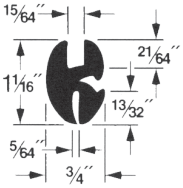
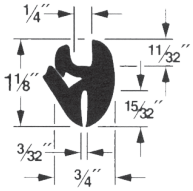


37-504



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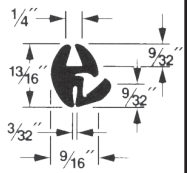
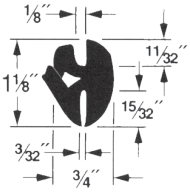


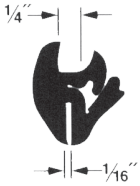
37-506



Longwood Standard Locking Channels

*Designates two-piece system

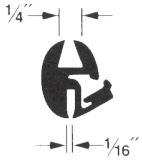
37-600



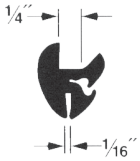
37-601

*37-602

37-603



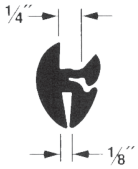
*37-604



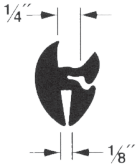
37-605

37-606

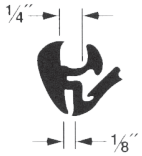
*37-607



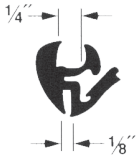
*37-608



37-609



37-610



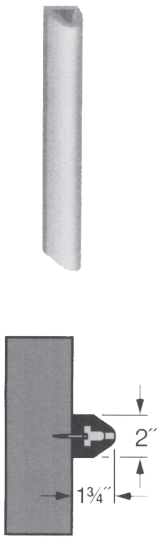
37-611

EXTRUDED DOCK BUMPERS

LONGWOOD

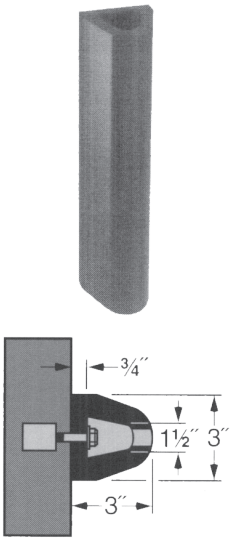
ILLUSTRATIONS BELOW NOT TO SCALE

38-D2



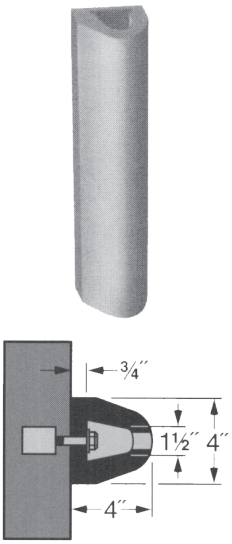
Bolt Size: ¼″ x 2″
Access Hole: ⅝″
Mounting Hole: ⅜″
Weight: 1.4 lbs/ft.
Color: Black

38-D3



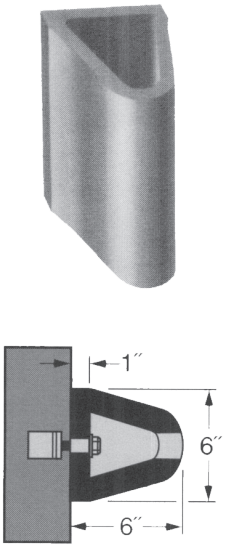
Bolt Size: ½″ x 3″
Access Hole: 1 ¼″
Mounting Hole: ⅝″
Weight: 3 lbs/ft.
Color: Black

38-D4



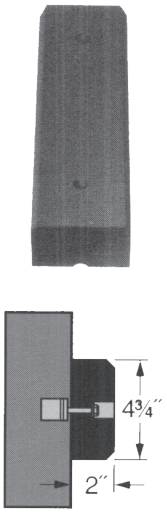
Bolt Size: ½″ x 3″
Access Hole: 1 ¼″
Mounting Hole: ⅝″
Weight: 5.5 lbs/ft.
Color: Black

38-D6



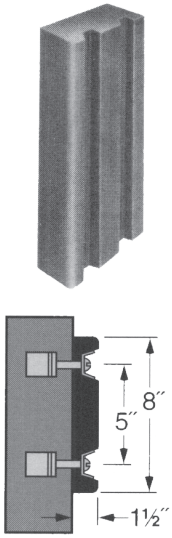
Bolt Size: ½″ x 3″
Access Hole: 1 ¼″
Mounting Hole: ⅝″
Weight: 8.5 lbs/ft.
Color: Black

38-25



Bolt Size: ½″ x 6″
Access Hole: 1 ¼″
Weight: 5 lbs/ft.
Color: Black

38-26



Bolt Size: ⅜″ x 3 ¾″
Weight: 6.5 lbs/ft.
Color: Black

USES & APPLICATIONS:

- Appropriate for outdoor or indoor protection
- For commercial loading docks, parking garages, and marinas
- For vehicles such as tow trucks, trailers, and heavy-duty construction equipment
- Rub rails at the sides of truck walls
- In-plant wall protection from forklifts and other material handling vehicles

FEATURES:

- Variety of styles available for greater flexibility
- Advanced design achieves maximum impact absorption and longer product life
- Custom designs available
- Long-lasting protection
- Can be pre-drilled for immediate installation
- Available in yellow or gray (please call for pricing)

BENEFITS:

- Installs easily
- Eliminates costly and unsightly damage to equipment
- Resistant to all types of weather
- One-piece construction

MATERIAL/THICKNESS:

- Made of solid rubber for medium and heavy-duty protection
- Lengths to 10 feet
- All bumpers have impact resistance (ASTM 2632) of 75% with a durometer of 70 ±5
- Tensile of 1,850 PSI with elongation of 220% and a tear strength of 229 lbs/in.

INSTALLATION:

- Anchor bolts easily install through pre-drilled holes into dock

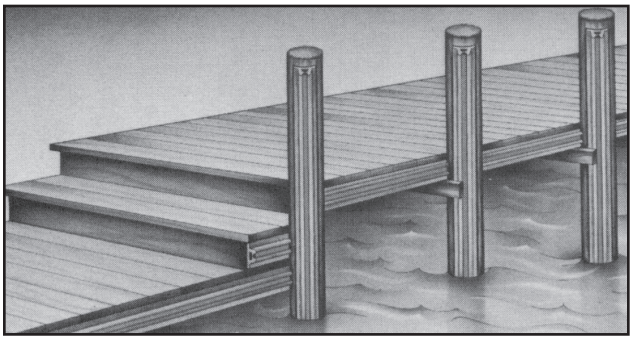
Longwood will fabricate extrusions to meet your needs!

Non-Marking Resilient Rubber

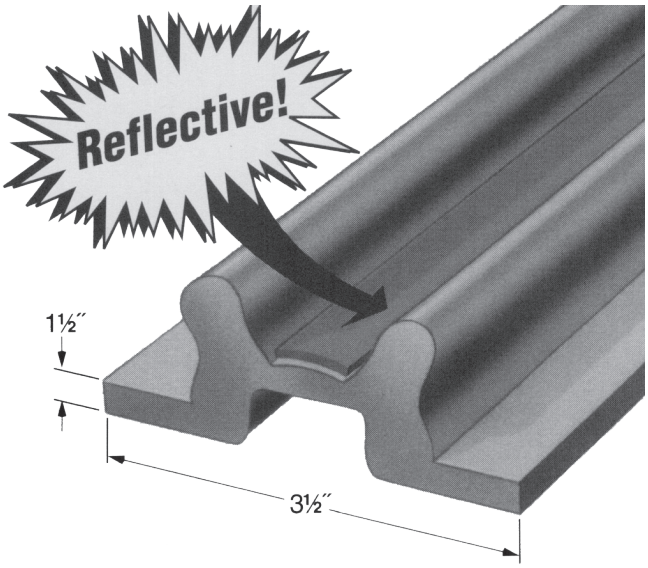
ILLUSTRATIONS BELOW NOT TO SCALE

Longwood Reflective Bumpers

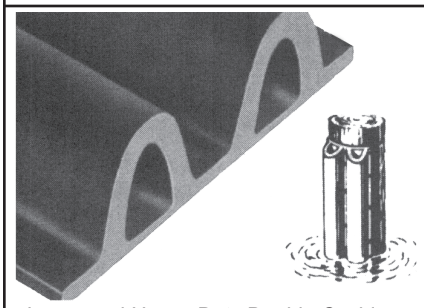
Ideal for limited visibility & nighttime boating



Reflective Bumper is an attractive "gray" with reflective stripe...sharpest bumper on the market.

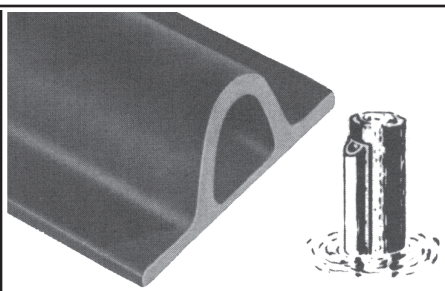


Longwood Standard Dock Bumpers



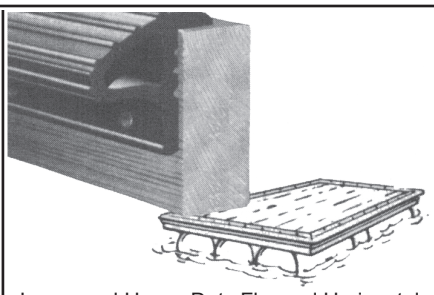
Longwood Heavy Duty Double Cushion Dock Bumper cushions landing for even the largest boats and heaviest traffic.

38-901 4 ¼″ Wide, 1 7⁄16″ High



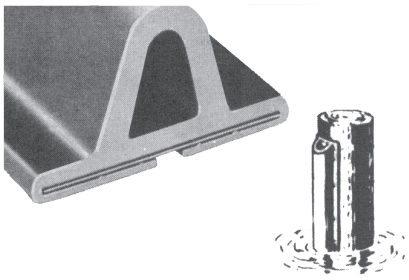
Longwood Single Cushion Dock Bumper is the perfect replacement for old tires, old fire hose, and other makeshift bumpers.

38-902 Regular 2 ⅛″ Wide, 1 ⅛″ High
38-903 Heavy Duty 3 ⅜″ Wide, 1 ⅞″ High



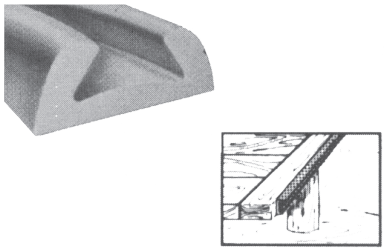
Longwood Heavy Duty Flanged Horizontal Dock Bumper is the best for floating docks. Installed horizontally along the dock or raft edge

38-904 1 ¾″ Wide (w/o flange), 2 ⅞″ High



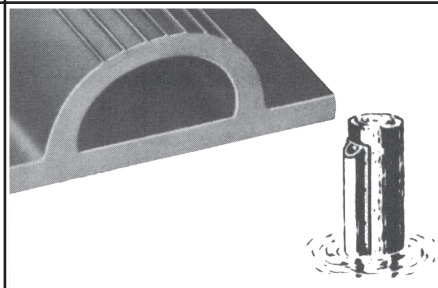
Longwood Extra Heavy Duty Commercial Dock Bumper reinforced with galvanized steel plate—takes repeated lateral impact. Predrilled mounting holes every 6 inches for easy installation.

38-905 3 ¾″ Wide, 2″ High



Longwood's New Small Horizontal Dock Bumper for 2″ edges. Particularly well suited for narrow edges on floating docks. 3 - 8 ft. pcs. per Tote Pack

38-906 1 ⅝″ Wide, ⅝″ High



Longwood Super Cushion Single Dock Bumper, for pleasure boats. Special anti-squeak design.

38-907 3 ¼″ Wide, 1 3⁄16″ High

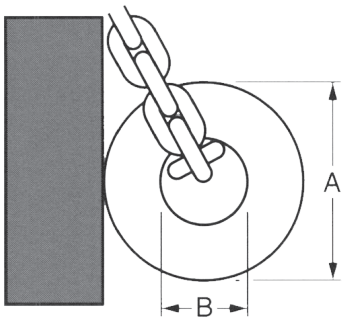
MARINE FENDERS

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

Cylindrical Fenders

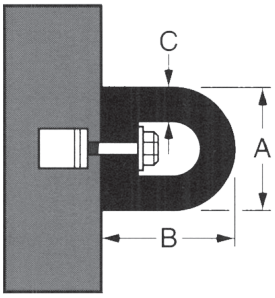
The flexibility of cylindrical fenders gives them a wide range of mounting options. They may be ordered pre-curved for special contours on docks or vessels.



Cylindrical Fenders		
Part #	**OD A**	**ID B**
38-O-525	5	2.5
38-O-63	6	3
38-O-73	7	3
38-O-75	7	5
38-O-84	8	4
38-O-93	9	3
38-O-105	10	5
38-O-126	12	6
38-O-1575	15	7.5

D-Shaped Fenders

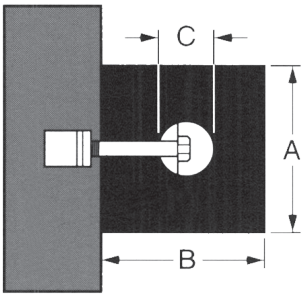
Designed for heavy-duty industrial use as well as on tugs, barges, loading docks, and marine docks. The "D" Series offers long-term durability for applications when repeated compression cycles are encountered.



D-Shaped Fenders			
Part #	**OD A**	**ID B**	**Bore C**
38-D55	5	5	2 x 2
38-D66	6	6	3 x 3
38-D88	8	8	4 x 4
38-D1010	10	10	6 x 6
38-D1212	12	12	6 x 6
38-D1414	14	14	7 x 7

Rectangular Fenders

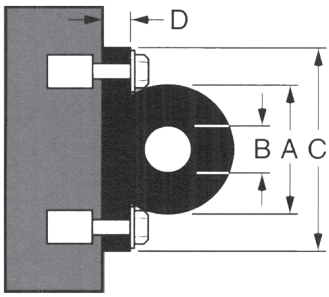
The rectangle profile is the most rigid of the fender designs. It may be mounted horizontally or vertically. It may be pre-curved during extrusion for mounting on vessels.



Rectangular Fenders			
Part #	**OD A**	**ID B**	**Bore C**
38-RF44	4	4	1
38-RF55	5	8	2.5
38-RF610	6	10	3
38-RF710	7	10	3
38-RF88	8	8	3
38-RF810	8	10	3
38-RF1010	10	10	4
38-RF1012	10	12	5
38-RF1212	12	12	6
38-RF1414	14	14	6

Wing-Type Fenders

These fenders combine the energy absorption capabilities of a cylindrical design with the convenience of wing-mounting. May be used with any vessels from pleasure craft to heavy tugs and ferries. The wing-type bumper also may be used in industrial applications.



Wing-Type Fenders				
Part #	**OD A**	**ID B**	**Width C**	**Thickness D**
38-WT42	4	2	6.5	1
38-WT41	4	1	6.5	1
38-WT62	6	2	9.5	1.5
38-WT63	6	3	9	1.5
38-WT84	8	4	12	2
38-WT103	10	3	16	2.5
38-WT104	10	4	16	2.5
38-WT126	12	6	18	3

Compound: Black SBR or gray EPDM.

Lead Time: 3 - 5 weeks

Lengths up to 20 feet available. Drilling, beveling, and pre-curving available at additional cost.

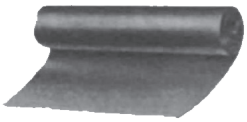
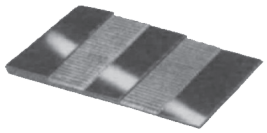
Call 1-800-829-7231

SHEET GOODS & GASKETS

40

Die Cut **Pg. 160**

MIL-Spec Sheet **Pg. 161**

Commercial Sheet   **Pg. 162**

Fluoro Elastomers Silicone
Viton **Pg. 165**

Sponge Sheet MIL Spec
Open Cell—Closed Cell **Pg. 166**

Sponge Strips (46-Series) PSA Backing **Pg. 167**

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE

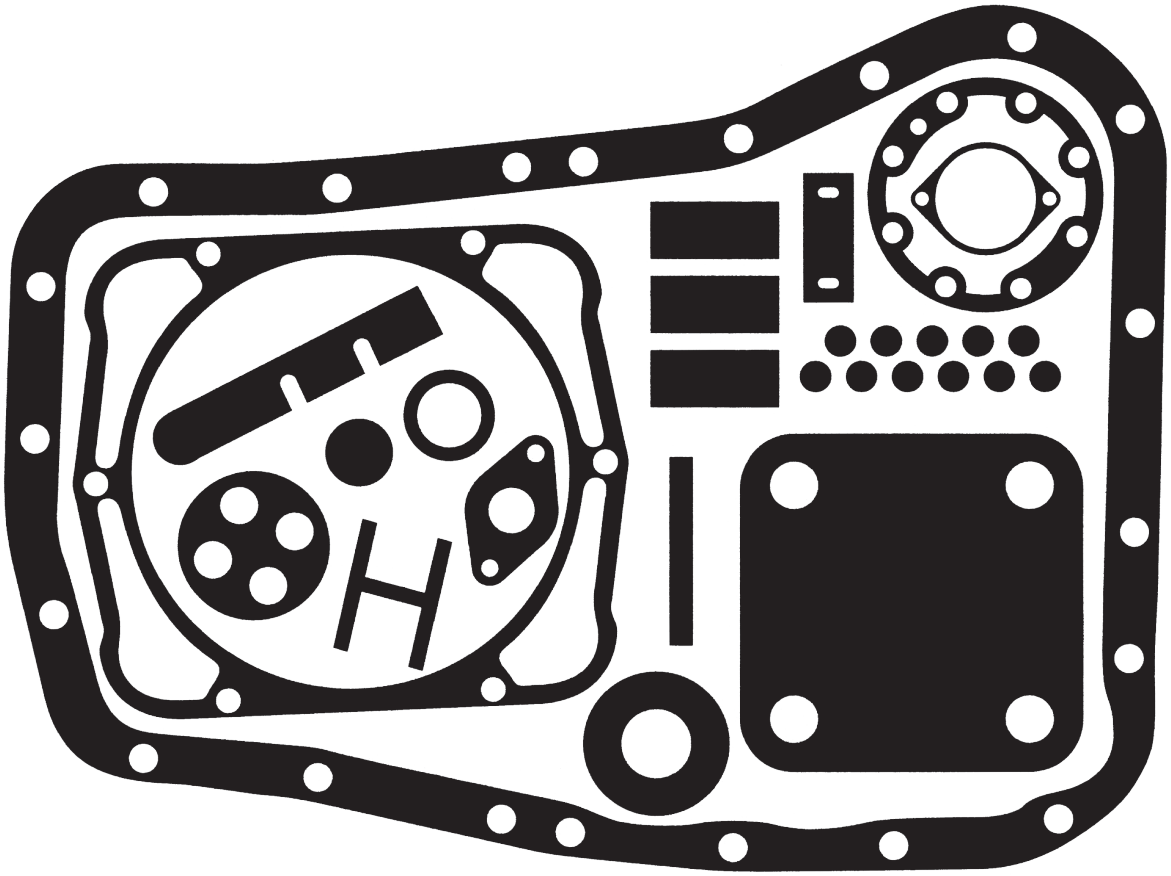
Die Cutting

Short or Long Production Runs

MATERIALS:
(COMMERCIAL & MILITARY SPEC)
- Open/closed cell sponge rubber
- Cork/rubber
- Rubber sheet packing—all polymers
- Silicone
- Diaphragm sheet
- Masticated rubber

ADDITIONAL FABRICATION:
- Slitting
- Laminating (PSA)

PRODUCTS:
- Gaskets
- Washers
- Seals
- Shims
- Strips
- Pads



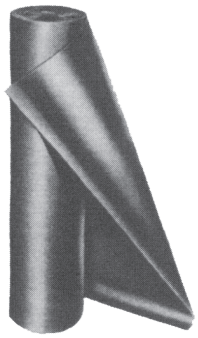
LONGWOOD

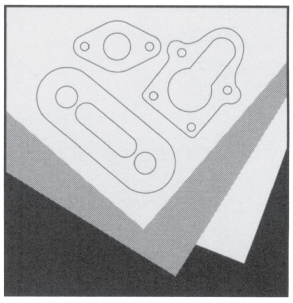
MILITARY SPECIFICATION SHEET RUBBER

ILLUSTRATIONS BELOW NOT TO SCALE

AMS 3205 Low Temperature
AMS 3207 Weather Resistant
AMS 3208 Weather Resistant
AMS 3209 Weather Resistant
AMS 3212 Aromatic Fuel Resistant
AMS 3215 Fuel Resistant
AMS 3240 Weather Resistant
AMS 3241 Weather Resistant
MIL-G-1086
MIL-G-1149 Type I, CL. I, Gr. 50 Neoprene
MIL-G-1149 Type II, CL. I, Gr. 65 Neoprene
MIL-G-1149 Type I, CL. I, Gr. 50 Buna-N
MIL-G-1149 Type II, CL. V, Gr. 65 Buna-N
MIL-G-23621
MIL-R-900
MIL-R-1229 (Ships)
MIL-R-2765 Buna-N
MIL-R-3065 SC 310 F[1] Neoprene
MIL-R-3065 SC 410 F[2] Neoprene
MIL-R-3065 SC 515 F[2] Neoprene
MIL-R-3065 SC 615 F[2] Neoprene
MIL-R-3065 SC 715 F[2] Neoprene
MIL-R-3065 SC 815 F[1] Neoprene
MIL-R-3065 SB 410 F[2] Buna-N
MIL-R-3065 SB 515 F[2] Buna-N
MIL-R-3065 SB 615 F[2] Buna-N
MIL-R-3065 SB 715 F[2] Buna-N
MIL-R-3065 SB 815 F[2] Buna-N
MIL-R-6855 (1-40) Fuel Resistant
MIL-R-6855 (1-50) Fuel Resistant
MIL-R-6855 (1-60) Fuel Resistant
MIL-R-6855 (1-70) Fuel Resistant
MIL-R-6855 (1-80) Fuel Resistant

MIL-R-6855 (2-40) Oil Resistant
MIL-R-6855 (2-50) Oil Resistant
MIL-R-6855 (2-60) Oil Resistant
MIL-R-6855 (2-70) Oil Resistant
MIL-R-6855 (2-80) Oil Resistant
MIL-R-15624
MIL-R-23652
MIL-R-25897
MIL-R-83248
ASTM D2000
4AA410A13B13C12F19
2AA515A13B13C12F19
2AA615A13B13C12F19
2AA715A13B13C12F19
2BC410A14B14C12EO34F17
2BC515A14B14C12EO34F17
2BC615A14B14C12EO34F17
2BC715A14B14C12EO34F17
5BG410A14B14EO1434F17
5BG515A14B14EO1434F17
5BG6150A14B14EO1434F17
5BG715A14B14EO1434F17
HH-G-156
HH-P-151E (C.I. Sheet)



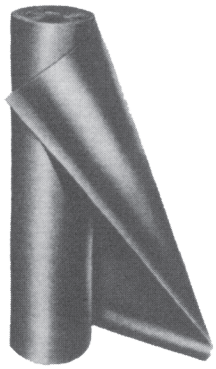


Commercial or mil-spec.
Call: 1-800-829-7231

ROLLS / SHEET / DIE-CUT
ALL MATERIALS!

LONGWOOD

ILLUSTRATIONS BELOW NOT TO SCALE



Commercial and Spec Compounds

Call 1-800-829-7231 for pricing and availability

(Below are typical properties and applications)

Longwood can die-cut, slit, or laminate sheet goods!

Oil- and Ozone-Resistant Neoprene Sheet — Black

Neoprene sheet is specially compounded to provide good resistance to oils and gasoline in such applications as gaskets and flanges in gas-permeable situations. Also applicable for bumpers, pads, and sealing usages.

A commercial blend, Neoprene compound, adaptable to extreme weather conditions since it resists rotting, checking, and cracking due to ozone exposure. Has good low-temperature flexibility and is oil-resistant. Meets ASTM specifications for 1BC material.

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll	Durometer Shore A ±5	Tensile PSI	Elongation %
1/64	36	0.4	180	40	1200	400
1/32	36	0.8	150	50	1300	350
1/16	36	1.4	100	60	1500	200
3/32	36	2.1	75	70	1500	200
1/8	36	2.7	50	80	1500	150
3/16	36	4.2	40			
1/4	36	5.6	25			

Specifications:
ASTM D-2000 Type BC
Mil-R-3065 SC

Temperature Range:
-40˚ to 180˚F

Color: Black

Oil-Resistant Nitrile Sheet — Black

Excellent for all types of washers, gaskets, and seals which require resistance to conditions of oils and aromatic fuels. Typical applications include carburetor gaskets, fuel pumps, diaphragms, and aircraft hose gaskets.

Nitrile has superior chemical resistance which increases adaptability to many applications. Excellent resistance to mineral and vegetable oils, acids, and bases with the exception of those having strong oxidizing effects. Resistance to heat aging is good.

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll	Durometer Shore A ±5	Tensile PSI	Elongation %
1/32	36	0.9	150	40	1000	500
1/16	36	1.6	100	50	1500	400
3/16	36	2.4	65	60	1500	300
1/8	36	3.1	50	70	1500	200
3/16	36	4.8	30	80	1500	150
1/4	36	6.3	25			

Specifications:
ASTM D-2000 Type BE
Mil-R-3065 SC

Temperature Range:
-40˚ to 200˚F

Color: Black

ILLUSTRATIONS BELOW NOT TO SCALE

Ozone-Resistant EPDM Sheet — Black

Excellent for applications which involve extreme temperatures and/or weather conditions. It is used extensively in high-temperature gasket installations.

Offers ozone and chemical resistance as well as resistance to extreme temperatures. Also provides excellent electrical and dynamic properties. Excellent resistance to animal and vegetable oils, water, steam, and oxygenated solvents.

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll
1/16	36	1.2	100
3/32	36	1.8	75
1/8	36	2.4	50
3/16	36	3.6	40
1/4	36	4.8	40

Durometer Shore A ±5	Tensile PSI	Elongation %
65	1500	350

Specifications: Mil-R-3065 RS 615 ASTM D-2000 Type BA

Temperature Range: -40˚ to 220˚F

Color: Black

Butyl Sheet — Black

Many applications from gaskets and washers to press pads. Very popular with manufacturers of tire inner liners and inner tubes.

Butyl is a non-oil-resistant compound which has good resistance to gas permeation, acids, alkalies, and ozone at moderately high temperatures. Resists weathering, sunlight, water absorption, corona, and animal and vegetable oils. Resistance to flexing and abrasion is outstanding.

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll
1/32	36	0.6	150
1/16	36	1.3	100
3/32	36	1.9	75
1/8	36	2.5	50
3/16	36	3.8	40
1/4	36	5.0	20

Durometer Shore A ±5	Tensile PSI	Elongation %
50	1000	350
60	1000	350

Specifications: ASTM D-2000 Type BA

Temperature Range: -40˚ to 225˚F

Color: Black

Pure Gum Floating Stock

For installation requiring high tensile and elongation characteristics along with superior abrasion resistance. Also suitable for applications requiring a soft rubber seal. Natural rubber conforms to irregular flanges with bolt loads.

Highly resilient, excellent abrasion and acid resistance and high tensile and tear strength. Bonds effectively to a wide range of materials. Resists most organic salts, acids, and alkalies. Compound is non-marking and non-toxic.

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll
1/32	36	0.5	150
1/16	36	1.0	100
3/32	36	1.4	75
1/8	36	1.9	50
3/16	36	2.9	40
1/4	36	3.8	40
1/8	36	5.7	30
1/2	36	7.6	30

Durometer Shore A ±5	Tensile PSI	Elongation %
40	3000	600

Specifications: ASTM D-2000 Type AA

Temperature Range: -20˚ to 140˚F

Color: Tan Floating Stock

1-800-829-7231

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ILLUSTRATIONS BELOW NOT TO SCALE

Styrene Butadiene Rubber Sheet — Red (SBR)

Recommended for low-pressure applications such as washers and gaskets for the heating and plumbing trades. Low-cost flange gasket material.

An economical, non-oil-resistant compound that resists flow under compression. Offers moderate to good performance against low pressure and good aging, abrasion resistance, and tear resistance. Easily conforms to uneven flange surfaces.

Red SBR Rubber

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll
1/16	36	1.8	60
3/32	36	2.6	40
1/8	36	3.5	30
3/16	36	5.3	20
1/4	36	7.0	15

Durometer Shore A ±5	Tensile PSI	Elongation %
75	400	150

Specifications:
ASTM D-2000 Type AA
ASTM D-1330-66 Class II

Temperature Range:
-20˚ to 170˚F

Color: Red

Cloth-Inserted SBR Sheet

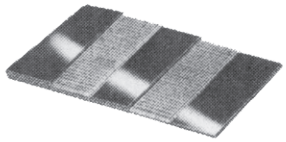
Excellent flange gasket material for air, hot and cold water, saturated steam, low-pressure steam, or hydraulic services. Suited for all types of gauges, meters, and valves where pressure areas are subject to movement.

A tough SBR compound and close-weave polyester fabric construction. Perfect for custom-cutting and off-size applications and provides both flexibility and uniform structural strength. One ply of fabric per 1/16″ thickness.

Cloth-Inserted SBR Rubber

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll
1/16	36	1.5	135
1/8	36	2.9	65
3/16	36	4.4	35
1/4	36	5.8	35

Durometer Shore A ±5	Tensile PSI	Elongation %
75	400	150



Specifications:
1-ply per 1/16″ thickness

Temperature Range:
-20˚ to 170˚F

Color: Black

Neoprene Diaphragm Sheet

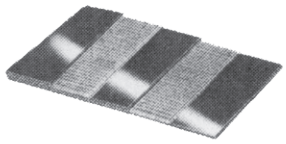
Strong, flexible, premium packing material used to transmit motions between fluids, gases, and air in gauges, meters, and valves.

An excellent weatherstripping material. Manufactured with a high-quality neoprene compound for long service. Reinforced with high quality polyester for balanced structural strength over entire diaphragm area.

Neoprene Diaphragm Sheet

Thickness	Width	Weight/ Lin. Ft. (lb).	Approx. Ft./Roll
1/16	48	2.0	100
1/8	48	4.0	50
3/16	48	6.0	25
1/4	48	8.0	25

Durometer Shore A ±5	Tensile PSI	Elongation %
70	1100	300

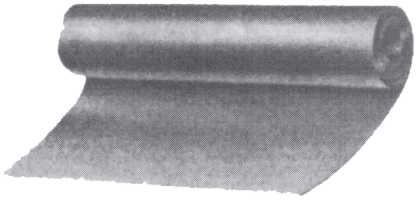


Specifications:
1-ply per 1/16″ thickness

Temperature Range:
-20˚ to 200˚F

Color: Black

ILLUSTRATIONS BELOW NOT TO SCALE



Viton

Durometer: 80 ±5
Temperature Range: -10˚ to 500˚F
Color: Black

Also available at same pricing: White-FDA-60 Duro, Black 55 Duro, Brown 80 Duro. Minimum order: 1 square yard

Fluoroelastomers (Fluorel®, Viton®)

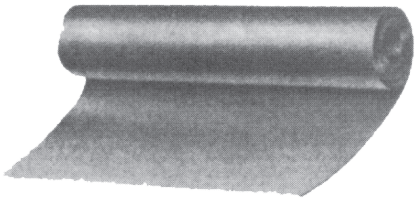
Special Assets: Fluoroelastomers are high-technology elastomers designed for extreme heat, oil, and chemical resistance. Products are nearly equal to silicone materials in heat resistance while resisting aliphatic aromatic and halogenated hydrocarbons, concentrated acids and alkalis, and animal and vegetable oils. Vulcanizates have higher tensile strength than silicones.

Restrictions: Fluoroelastomers are not generally resistant to ketones, low-molecular-weight esters (such as ethyl acetate), or nitro-containing compounds. Products are not usually serviceable below -15˚F. Fluoroelastomers are premium-priced materials.

Fluoroelastomers are available in the following specifications:

Du Pont Viton*, 3M Fluorel*, AMS-7276, AMS-7278, AMS-7279, AMS-8280, ASTM D2000HK, MIL-R-23652, MIL-R-25897, MIL-R-81555, MIL-R-83248

Longwood also supplies:
- Extrusions
- Fabric-inserted Viton® sheet
- Nuclear grade Viton®
- Large custom gaskets & seals
- Viton® with fiberglass or Nomex® reinforcing
- Materials for flue duct expansion joints
- Molded rectangle flue duct expansion joints
- Molded parts
- Food grade Viton®
- White or colored Viton®



Silicon Sheet

Durometer: 40—80 ±5
Temperature Range: -60˚ to 500˚F
Color: Red

A partial list of the specifications Longwood is capable of manufacturing:
(*Please contact us for your requirements*)

American Society of Testing Materials
ASTM D2000 SAE J200 FC FE FK GE

Military Specifications
MIL R 46089 Grade M & F Sponge
MIL R 3065 B & MIL STD 417 (TA) 405 407 505 506 507 510 512 605 606 607 608 610 612 705 706 707 710 805 806 807 810
MIL C 3133 Sponge
MIL R 6130 TY 2 Grade C Sponge
MIL R 25988 TY 1, TY 2, Class 1 40-80 Duro, Class 2 & 3
ZZ-R-765C Class 1A, 1B 40-80 Duro,
Class 2A, 2B, 25, 40-80 Duro,
Class 3A 30, 50-80 Duro
Class 3B 30, 50-80 Duro
MIL R 5847 Class 1A, 1B, 2A, 2B 40-80 Duro, Class 3A & B
MIL R87175 70, 80 Duro

Longwood also offers premium sheet stock and coated fabrics through its Fairprene division. For more information, please visit: www.fairprene.com

ILLUSTRATIONS BELOW NOT TO SCALE

Open Cell / Closed Cell Sponge Rubber

(All Polymers)

The Ultimate Weatherstripping

Specifications:
ASTM-D 1056 Class RO-13
Medium/Firm Density

Color: Black

Closed cell sponge is available in sheet and strip form, with and without PSA backing.

See Series 46 next page for Closed Cell Sponge PSA Backed strips

What is closed cell sponge?

Closed cell sponge is an expanded, cellular rubber. A rubber compound incorporating gas-forming ingredients is subjected to heat and pressure, which when released allows the gas to expand and form a sponge of non-connecting, gas-tight cells.

How does closed cell sponge differ from open cell?

Closed cell sponge consists of relatively small, non-connecting, gas-tight, individual cells. Open cell sponge consists of relatively large, interconnected cells.

In what thicknesses is closed cell sponge available?

Closed cell sponge is manufactured in thicknesses from 1⁄16″ through 2″.

In what grades is closed cell sponge available?

Closed cell sponge is available in soft (2 to 5 lbs. compression-deflection), medium (5 to 9 lbs. compression-deflection), and firm (9 to 13 lbs. compression-deflection).

Which of the various types of closed cell sponge have the best properties for oil resistance, ozone resistance, etc.?

Generally, neoprene/EPDM/SBR sponge is considered the best all-around material. Nitrile sponge is considered the best for oil and chemical resistance. The following table gives the characteristics of the various elastomers for the listed properties.

Property	Neoprene EPDM/SBR	Nitrile	Ozone
Ozone resistance	Good	Good	Excellent
Weather resistance	Good	Good	Excellent
Oil resistance	Good	Excellent	Fair
Low temp. resist.	Good	Good	Excellent
High temp. resist.	Good	Good	Excellent
Heat insulation	Excellent	Excellent	Excellent
Min. water absorp.	Excellent	Excellent	Excellent
Chemical resist.	Excellent	Excellent	Good

Where can closed cell sponge be used?

Closed cell sponge can be used in a great variety of applications. It is employed for gasketing, sealing, cushioning, vibration dampening, packaging, and insulation, among other things. For example, closed cell sponge has been used for:

- Weatherstripping (adhesive and non-adhesive back)
- Sealant against air and liquids with light-gauge metals
- Automotive applications such as headlight gaskets
- Small appliance cushion
- Camper and trailer door window gaskets
- Electrical box seals
- Cushion and non-skid pads on office machines
- Tractor cab gaskets
- Refrigerated cooler gaskets

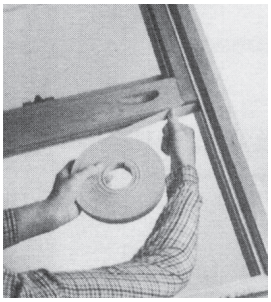
Will cell sponge be available with adhesive?

Closed cell sponge sheets with pressure-sensitive non-staining adhesive spread on one side and protected with release paper is available.

ILLUSTRATIONS BELOW NOT TO SCALE

Closed Cell Sponge Rubber

- Non-stretch fabric, self-adhesive backing
- Peel-off adhesive backing
- For all types of weatherstripping, dust-sealing, and sound control
- Seals out heat or cold
- Excellent cushioning characteristics
- Stop noisy vibration
- Closed cell to resist moisture



Closed Cell Sponge Stripping with Adhesive

Part #	Description	Feet Per Roll
46-100	1/16 x 3/8	100
46-101	1/16 x 1/2	100
46-102	1/16 x 5/8	100
46-103	1/16 x 3/4	100
46-104	1/16 x 7/8	100
46-105	1/16 x 1	100
46-106	1/16 x 1 1/2	100
46-107	1/16 x 2	100
46-108	1/16 x 2 1/2	100
46-109	1/16 x 3	100
46-110	1/8 x 3/8	75
46-111	1/8 x 1/2	75
46-112	1/8 x 5/8	75
46-113	1/8 x 3/4	75
46-114	1/8 x 7/8	75
46-115	1/8 x 1	75
46-116	1/8 x 1 1/2	75
46-117	1/8 x 2	75
46-118	1/8 x 2 1/2	75
46-119	1/8 x 3	75
46-120	3/16 x 3/8	50
46-121	3/16 x 1/2	50
46-122	3/16 x 5/8	50
46-123	3/16 x 3/4	50
46-124	3/16 x 7/8	50
46-125	3/16 x 1	50
46-126	3/16 x 1 1/2	50
46-127	3/16 x 2	50
46-128	3/16 x 2 1/2	50
46-129	3/16 x 3	50
46-130	1/4 x 3/8	35
46-131	1/4 x 1/2	35
46-132	1/4 x 5/8	35
46-133	1/4 x 3/4	35
46-134	1/4 x 7/8	35
46-135	1/4 x 1	35
46-136	1/4 x 1 1/2	35
46-137	1/4 x 2	35
46-138	1/4 x 2 1/2	35
46-139	1/4 x 3	35

(Continued on next page)

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ILLUSTRATIONS BELOW NOT TO SCALE

Part #	Description	Feet Per Roll
46-140	5/16 x 3/8	25
46-141	5/16 x 1/2	25
46-142	5/16 x 5/8	25
46-143	5/16 x 3/4	25
46-144	5/16 x 7/8	25
46-145	5/16 x 1	25
46-146	5/16 x 1 1/2	25
46-147	5/16 x 2	25
46-148	5/16 x 2 1/2	25
46-149	5/16 x 3	25
46-150	3/8 x 3/8	20
46-151	3/8 x 1/2	20
46-152	3/8 x 5/8	20
46-153	3/8 x 3/4	20
46-154	3/8 x 7/8	20
46-155	3/8 x 1	20
46-156	3/8 x 1 1/2	20
46-157	3/8 x 2	20
46-158	3/8 x 2 1/2	20
46-159	3/8 x 3	20
46-160	1/2 x 1/2	15
46-161	1/2 x 5/8	15
46-162	1/2 x 3/4	15
46-163	1/2 x 7/8	15
46-164	1/2 x 1	15
46-165	1/2 x 1 1/2	15
46-166	1/2 x 2	15
46-167	1/2 x 2 1/2	15
46-168	1/2 x 3	15

Longwood will supply strips in a roll—easy use and convenient storage

Closed Cell Sponge Rubber Strips

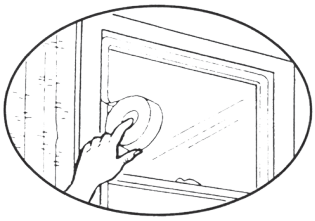
Neoprene/EPDM SBR
Soft-Style 7401-A or Medium Style 7402-A

Specifications:
- ASTM D 1056-67 SCE-41 or 42
- ASTM D 1056-78 RE-41 or 42
- ASTM D 1056-87 SCE-41 or 42
- FMVSS-302
- SAE-J-18
- Mil-R-6130C II-A
- UL-94-HBF
- UL-94-HF1

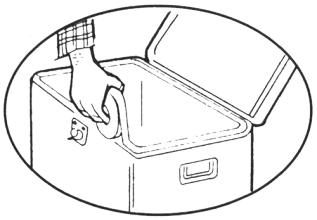
Tolerances comply with RMA Class 1

Adhesive:
- High tack, high strength
- 75 lb. lay-flat liner
- Polyester carrier

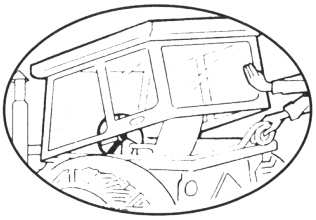
Applications:



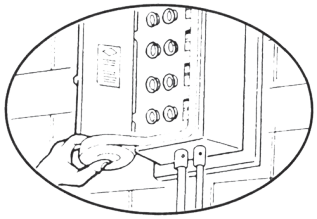
Weather sealing



Seal in cold
Seal out heat



Stop noisy vibration
Block dust & moisture



Seal out dirt/rain

RUBBERS

Natural Rubber
Butadiene Styrene
Silicone
Nitrile
Polyisobutylene
Acrylic
Ethylene
Propylene
Polyisoprene
Fluorosilicone
Viton
Neoprene
Butadiene
Hypalon
Buna N
Polyurethane
Butyl
Natsyn

PLASTICS

Nylon
ABS
Acrylic
Polyester
Polyurethane
Polybutylene
Polycarbonate
Polyethylene
Polypropylene
Polystyrene
Polyvinyl Chloride
Acetal
Fluoropolymers
Polyarylether
Diallyl Phthalate
Phenolics

TPEs* & TPRs**

Styrenic Block Copolymer
Rubber-Polyolefin In Blends
Elastomeric Alloys
Thermoplastic Polyurethane
Thermoplastic Copolyester
Thermoplastic Polyamide
Santoprene
Alcryn
Draton
Hytrel
Estamid

*Thermoplastic Elastomers
**Thermoplastic Rubbers

MILITARY & COMMERCIAL SPECIFICATIONS:

ASTM D-2000 Class AA, BA, BC, BE, BF, BG, CA, OE, CH, DA, FC, FE, GE, HK • MIL-R-3065, MIL-STD-417, ZZ-R-765, MIL-R-6855, MIL-R-800, MIL-R-900, MIL-R-1149, MIL-R-15624, MIL-R-2765 • AMS-3200 thru AMS-7276 • Hardness Range 25 Shore A to 50 Shore D.

Prototyping.....Rubber • Plastic • TPEs

Our unique “Master Molds” concept can produce the rubber, plastic, TPR and TPE components you need quickly and efficiently. Our designers and engineers will work hand-in-hand with you on the design, set-up, tooling, compound development, and production requirements.

LONGWOOD

LONGWOOD'S ENGINEERING GUIDE

To the Properties of Natural and Synthetic Rubber

This reference chart has been prepared to be a helpful guide to the design engineer in the selection of basic rubber polymers. Because of the variety of polymers and thousands of different compounding ingredients, there is an almost limitless number of possible rubber compounds. Therefore, successful engineering of a rubber application requires close collaboration with Longwood Engineering as to the specific service and ultimate use of the part.

Property	Natural Rubber	SBR (Buna-S)	Nitrile (Buna-N)	Neoprene	Butyl	Fluro-Silicone	Silicone	Hypalon**	Poly-Acrylic	Poly-Urethane	Viton**
Tensile Strength (PSI)	4500	3000	3500	3500	3000	1200	1500	4000	1800	5500	2000
Elongation	700	500	500	500	600	300	300	300	200	800	250
Tear Resistance	EX	F	F	G	G	F	P-F	EX	F	G	G
Abrasion Resistance	EX	G	G	EX	F	P	P	EX	G	EX	G
Resilience	VG	F	F	VG	VG	G	G	G	VG	VG	F
Gas Permeability	F	VG	VG	F	VG	F	F	VG	G	G	F
Low Temp. Flexibility (max.)	-65˚F	-75˚F	-75˚F	-65˚F	-65˚F	-90˚F	-130˚F	-40˚F	-20˚F	-65˚F	-40˚F
High Temp. (max.)	300˚F	275˚F	300˚F	300˚F	300˚F	550˚F	550˚F	300˚F	350˚F	250˚F	600˚F
Sunlight Resistance	P	P	P	EX	EX	G	G	EX	EX	EX	G
Oxidation Resistance	G	F	F	G	G	VG	VG	VG	EX	F	EX
Flex Cracking Resistance	EX	G	G	EX	EX	F	F	G	G	F	G
Compression Set Resistance	VG	G	VG	VG	F	VG	VG	F	G	F	VG
Water Resistance	G	VG	VG	F	VG	F	F	P	F	P	VG
Alkali (dilute) Resistance	G	G	G	G	VG	F	F	G	P	P	F
Alkali (concentrated) Resistance	F	F	F	G	VG	F	P	G	P	VP	P
Acid (dilute) Resistance	G	G	G	F	G	F	F	G	P	P	EX
Acid (concentrated) Resistance*	F	P	P	F	F	P	P	G	P	VP	EX
Low Aniline Oil Resistance	VP	VP	EX	F	VP	F	P	F	EX	F	EX
High Aniline Oil Resistance	VP	VP	EX	G	VP	G	G	G	EX	G	EX
Synthetic Lubricant Resistance	VP	VP	G	VP	P	G	F	P	F	P	EX
Organic Phosphate Resistance	VP	VP	VP	VP	G	P	P	P	P	VP	F
Aromatic Solvent Resistance	VP	VP	F	P	VP	G	VP	P	P	P	EX
Aliphatic Solvent Resistance	VP	VP	G	F	P	G	P	F	G	F	EX
Oxygenated Solvent Resistance	G	G	P	F	G	G	P	P	P	VP	EX
Halogenated Solvent Resistance	VP	VP	F	VP	P	P	VP	VP	P	VP	EX
Aromatic Fuel Resistance	VP	VP	G	G	VG	G	P	P	F	P	EX
Non-Aromatic Fuel Resistance	VP	VP	EX	G	VG	G	G	F	P	G	EX

*Except Nitric and Sulfuric **Trademark of E.I. DuPont

Key: VP = Very Poor; P = Poor; F = Fair; G = Good; VG = Very Good; EX = Excellent

Longwood's Testing Capabilities to ASTM Standards

D 395 Compression Set
D 412 Tensile Testing Rubber
D 413 Rubber Adhesion Testing
D 429 Rubber Adhesion to Metal
D 430 Dynamic Fatigue Testing of Rubber
D 471 Effect of Liquids on Rubber Properties
D 518 Rubber Deterioration Due to Ozone
D 573 Rubber Deterioration in Air Oven
D 575 Compression-Deflation of Rubber
D 624 Tear Resistance of Rubber
D 735 Specifications Properties
D 865 Rubber Deterioration in Test Tube Aging
D 1084 Viscosity of Adhesives
D 1149 Surface Ozone Cracking in Chamber
D 1171 Surface Ozone Cracking—Outdoor and/or Chamber
D 1329 Low Temperature Retraction
D 1415 Microhardness, International
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