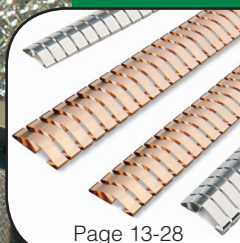


Tech-Etch

EMI/RFI Shielding Solutions



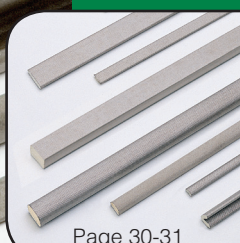
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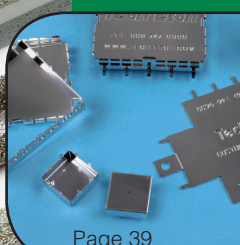
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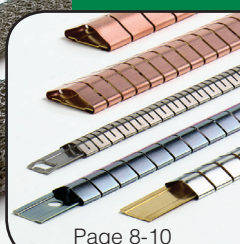
Page 40-45



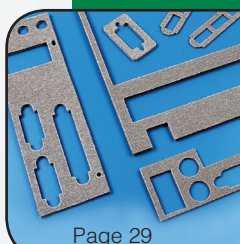
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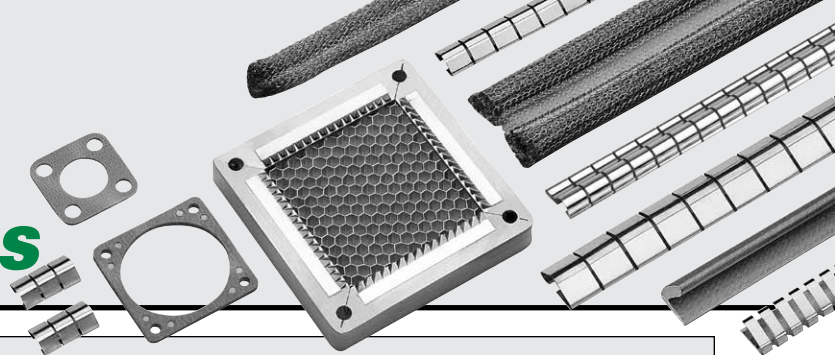
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www.tech-etch.com

EMI/RFI Shielding Products



Tech-Etch is a global supplier of EMI/RFI shielding products for the commercial and military markets. A leader in the shielding field for over 40 years, Tech-Etch designs and manufactures both standard catalog and customized shielding products. Our complete line of shielding includes all sizes, shapes, compositions, mounting options and seal types. Products include BeCu shielding strips, conductive elastomers, wire mesh, filters, honeycomb vents, board level, metalized fabric shielding, and conductive foam.

Tech-Etch is dedicated to continued improvement and committed to remaining a

leader in the shielding industry. Tech-Etch has continually introduced new products to maintain our leadership role. Product innovations have included No-slag fingers, Hook-on fingers and Snap-on fingers. Tech-Etch operates a Quality System that has been registered to ISO 9001.

Tech-Etch performs a wide variety of services, and this single-source capability enables us to assume total responsibility for the quality and delivery of our precision products. In-plant services include photoetching, stamping from coil stock and forming from etched blanks, tool and

die making, production heat treating, flexible circuit design and production, welding and soldering, metal finishing, plating, and laser cutting. Secondary operations such as soldering joints to seal seams, spot welding, and the application of pressure sensitive tapes and insulation materials are also available.

Tech-Etch supplies many custom designed shielding components for special applications from high volume requirements using progressive dies, to prototype and small quantities utilizing photoetch fabrication. Photoetching economically manufactures custom board level shielding.

Shielding Compatibility

Electromagnetic Compatibility

EMI/RFI Shielding Products are designed to either keep out or keep in electromagnetic interference. Shielding reflects and absorbs incident radiation. The higher the attenuation of the shielding, the more effective it is at keeping in or out the undesired electromagnetic interference.

Electrochemical Compatibility

To avoid galvanic action between contacting metals refer to this chart. Materials in adjacent groups may be safely used together. Choosing materials from within a single group in the table will provide the least corrosion due to galvanic action when the materials are in contact for an extended period of time with appropriate protective finish.

Grouping of Metals by Decreasing Galvanic Activity

Group 1	Group 2	Group 3	Group 4
Magnesium Magnesium Alloys Aluminum Aluminum Alloys Zinc & Zinc Plating Chromium Plating	Aluminum Aluminum Alloys Zinc & Zinc Plating Chromium Plating Cadmium Plating Carbon Steel Iron Nickel & Nickel Plating Tin & Tin Plating Tin/Lead Solder	Cadmium Plating Carbon Steel Iron Nickel & Nickel Plating Tin & Tin Plating Tin/Lead Solder Brass Stainless Steel Beryllium Copper Copper & Copper Alloys Nickel/Copper Alloys Monel	Brass Stainless Steel Beryllium Copper Copper Copper Alloys Nickel/Copper Alloys Monel Silver

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The data presented in this catalog is based on testing and to our knowledge is accurate and true. Since applications, test methods and test procedures may vary, we recommend that users of our products perform their own tests to assure the suitability of these products for their specific applications. We offer no product warranty, either expressed or implied, except any product proven defective will be replaced. Freedom from present or future patent infringement cannot be guaranteed, nor can the suitability of our products for specific applications. Compression data provided is for reference only.

Interactive PDF Sales Drawings

Sales drawings with Metric and English dimensions are available from this catalog and on our web site for all standard shielding strip products. The PDFs will automatically determine the correct Tech-Etch part number to ensure accurate ordering. **Parts with PDF Sales Drawings display the icon above and this button to click to download the PDF.**

Download
Sales Drawing

Shielding Strips

Tech-Etch offers the most complete line of standard BeCu shielding strips in the industry. They are available in strips ranging from 16 to 24 inches in length, in continuous coils up to 35 feet long, as single fingers, or cut to requested full-finger lengths. Consult our engineering department for special modifications to suit your requirements.

Standard finger stock uncompressed heights range from .03" to .44", which will occupy gaps as low as .01". Many gaskets are offered in two material thicknesses to meet diverse application compression requirements: "Standard" and "TF", which requires less force to compress the gasket to its operating range.

Beryllium Copper - the ideal shielding material

Beryllium Copper (BeCu) is a high performance metal which can be fabricated into a wide variety of components. Its mechanical and electrical properties make it the ideal material for EMI/RFI shielding products.

- High electrical and RF conductivity
- Superior tensile strength & attenuation
- RoHS compliant & recyclable
- Excellent corrosion resistance

Beryllium Copper's **electrical properties** provide shielding effectiveness over an extremely broad frequency range. At the same time, its **mechanical properties** yield

a high deflection range, in addition to a long life without compression set. BeCu finger stock provides maximum spring properties for strength and fatigue resistance, plus excellent conductivity. Available in many plating options, Beryllium Copper has a high cycle time and conforms to large gap variations. All these electrical and mechanical qualities make it the best shielding material.

Stainless Steel

Stainless steel is an economical alternative to beryllium copper for shielding applications where high attenuation is not required. It does not have the electrical conductivity of BeCu

and is stiffer. Mechanical considerations generally limit the use of stainless steel to low profile strips and twisted contacts. Items are identified by Ⓢ in the notes.

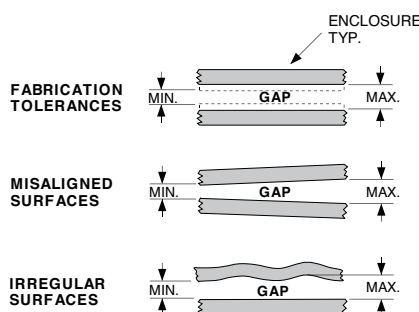
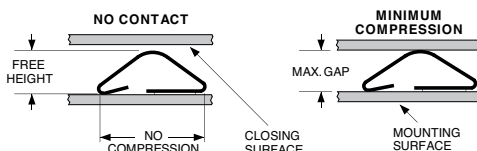
Attenuation

For maximum attenuation of a gasketed gap, the contact resistance of the mounting joint and closing joint must be very low and remain so throughout the life of the product. While a gasket may have the potential for very high attenuation under ideal conditions, over time oxidation, corrosion and dirt at

the mounting and closing joints may reduce effectiveness. Factors influencing contact resistance over the life of the product are pressure (closing force), plating, and wiping action. Our engineers can help you determine the optimal specifications to ensure sustained attenuation.

Compression

The purpose of shielding is to occupy and thereby shield the gap that exists between two adjoining surfaces. In order to be effective, shielding gaskets must be able to occupy both the maximum and minimum gaps, which exist due to fabrication tolerances, misalignment of surfaces, or irregular surfaces. Proper compression management is essential to ensure effective EMI shielding. Tech-Etch will be pleased to assist you in specifying the most effective gasket for your requirements.



$$\text{OPERATING RANGE} = \text{MAX. GAP} - \text{MIN. GAP}$$

Material Specifications

Beryllium Copper (BeCu) ASTM B194

Chemical Composition

Beryllium.....	1.80-2.00%
Cobalt plus nickel.....	0.20% Min.
Cobalt + nickel + iron.....	0.6% Max.
Copper.....	Balance

Physical Properties (heat treated)

Electrical conductivity (% IACS)	22-25
Modulus of elasticity (psi)	18.5×10^6

Mechanical Properties (heat treated)

Temper (1,000 psi)	1/4 HT	1/2 HT
Tensile strength	175 Min.	185 Min.
Yield strength	150 Min.	160 Min.
	.2% offset	

Stainless Steel

Type 301 Stainless steel possesses good heat and corrosion resistance.

AISI 301 Analysis

C: .15 Max.	S: .030 Max.
Mn: 2.00 Max.	Cr: 16.00/18.00
Si: .750 Max.	Ni: 6.00/8.00
P: .040 Max.	

RoHS Compliance

Tech-Etch is committed to protecting the environment and complying with the European Directive regarding the Restriction of Hazardous Substances (RoHS). See page 6 for additional information.

RoHS
COMPLIANT

Shielding Strips

Shielding Strips Installation Options



Shielding strips are designed for a wide variety of application requirements, and can be supplied cut to length or full size in any of the following mounting configurations. Consult our engineering department for special modifications to suit your requirements.

If you know the Shielding Strip Part Number you are looking for, see the directory on page 7.

Interactive PDF Sales Drawings

Sales drawings with Metric and English dimensions are available on our web site for all standard shielding strip products. The PDFs will automatically determine the correct Tech-Etch part number to ensure accurate ordering. Parts with PDF Sales Drawings display the icon above.

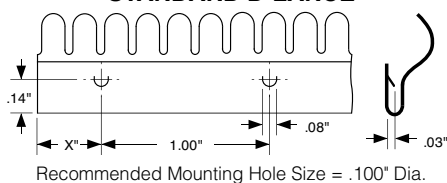


Clip-on Mounting

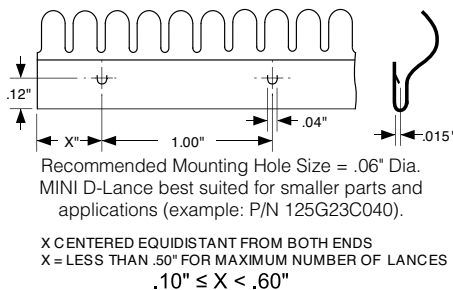


Clip-on Mounting provides a reliable mechanical installation when there is an accessible mounting flange. Various flange thicknesses can be accommodated, and lances can be added to enhance the holding force to the flange.

STANDARD D-LANCE



MINI D-LANCE



Certain Clip-on strips have lance locations other than shown above. These dimensions are specified on the product drawings in the Clip-on section.

Extrusion Mounting

Tech-Etch "S" Series symmetrical shielding strips can be installed on extrusions specially designed to provide a useful free height. A durable shielding solution for applications requiring bi-directional motion. The drawing below illustrates guidelines for designing the extrusion.

Dimension "A" less allowance for initial contact is the compression range. Dimension "B" should be approximately .020" less than the open dimension of the shielding strip.



Stick-on Mounting

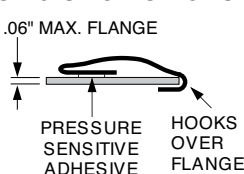


Pressure Sensitive Mounting provides double-sided pressure sensitive transfer tape for a fast, reliable installation. 3M F9469PC transfer tape or equivalent may be used at ambient temperatures from -67°F to 300°F. Apply only on a clean, oil-free surface, and allow a 24-hour cure time. Consult the factory for other adhesives and extended liner options.

STICK-ON GASKET



HOOK & STICK-ON GASKET



Hook and stick fingers are ideal for flange mounting applications requiring low compression forces and small gap shielding.

Non-conductive .010" thick adhesive may be specified for improved adhesion on rough surfaces. Conductive adhesives and extended liners are also available. Consult the factory for these options.

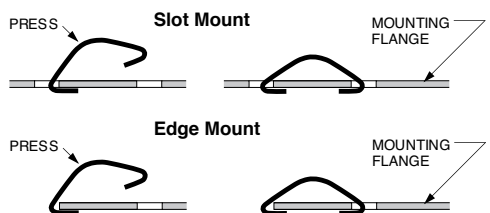
Special Mounting

Special Mounting shielding strips can be installed by spot welding or soldering. Rivets can be used for the 375A and 500A profiles and conductive pressure sensitive adhesives are available. Consult the factory.

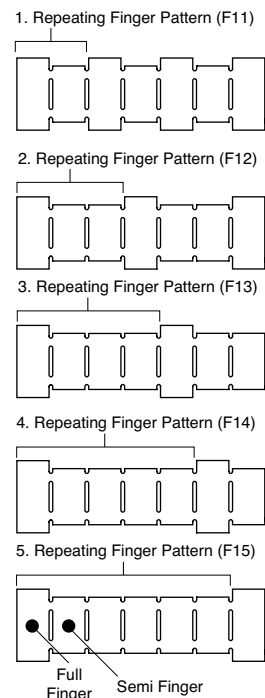
Snap-on Mounting



Slot and Edge Mount Symmetrical fingers using single or double fingers are very economical for applications such as sliding drawers, doors, rack-mounted assemblies and covers. They perform well in bi-directional applications and the snap-on capability makes them easy to install.



When continuous shielding is required the V Series or VE Series utilizing the same snap on mounting feature can be used. The figure below illustrates available repeating finger patterns for the V and VE Series.



Consult factory for the availability of other patterns.

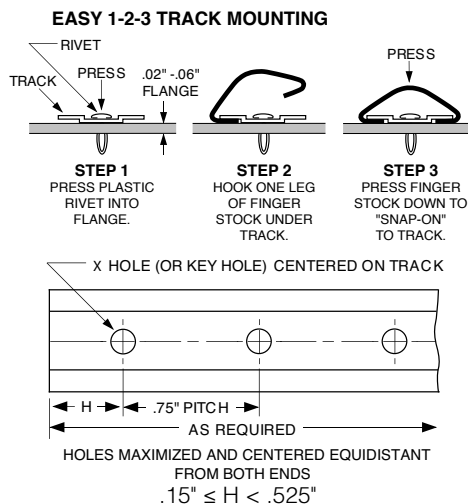
Track Installation Options & Accessories



● Track / Extrusion Mounting

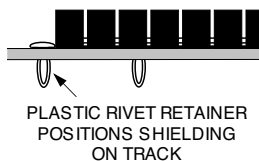
Track or extrusion mounted symmetrical fingers provide a durable shielding solution for applications requiring bi-directional motion, such as drawers and plug-in modules.

TR Series Track is typically installed with plastic rivets, but is also available with pressure sensitive tape for adhesive mounting. The track can be installed prior to the assembly of the finger strips to avoid damaging the fingers. See track mounting drawing below. Retention stops can also be incorporated in the sheet metal.



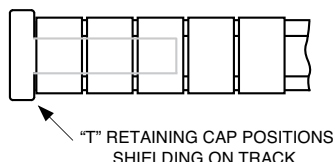
Plastic Rivets

Plastic rivets can be used to install Track and as rivet stops to retain shielding on a track as shown below and in the photo on the right. When used on a flange, the hole diameter for the rivet should be $.125"$. Two rivets are available: PR45 and PR60 (See Track Accessories on page 8.).



"T" Retaining Caps

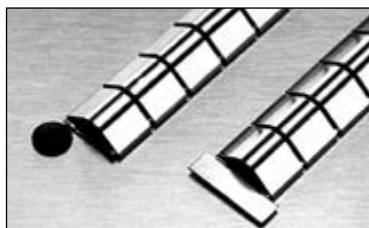
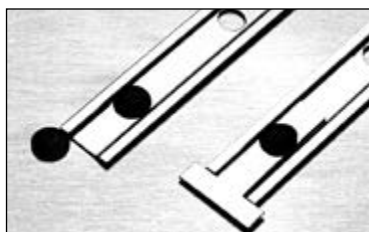
"T" Retaining Caps (See Track Accessories on page 8.) can also be used to hold shielding on the Track as illustrated here.



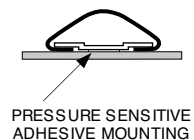
Tech-Etch offers many profiles of fingerstock and options for track mounting.



Track the in top photo shows two shielding retainer options: Plastic Rivet Stop on the left and "T" Retainer on the right. Bottom photo shows the same track with shielding snapped into place.



Pressure Sensitive Transfer Tape Mounting



Perhaps the easiest track mounting option is with double sided pressure sensitive transfer tape. Simply apply on a clean, oil-free surface, and allow a 24-hour cure time.

Omni Track

Omni Track is designed to provide a track type mounting for single finger applications. It is typically supplied with pressure sensitive tape for adhesive mounting. Holes are available for rivet mounting.



How To Order Shielding Strips

Tech-Etch Part Numbers are unique because they describe the actual part. This makes it easy to order and also to understand the specifications of any strip. The chart below explains how to read and create Part Numbers. Available on our web site are **Interactive PDF Sales Drawings** for all shielding strips that automatically determine the correct Tech-Etch part number.

P A R T N U M B E R D E T A I L									
187 W 35-5.41-15-MOD With Tape									
E X A M P L E S	187	W	35	-	5.41	-	15	-	MOD With Tape
	182	RF9	C050	L	-	2.14	-	08	
	187	RC			-	5.56	-	08	MOD With 3 Holes .125" Dia.
		TR	37	A	-	9.73	-	02	
	250	KS	37		-	.43	-	02	
	250	K4	C070		-	2.72	-	L-08	
	375	M	60	E78	-	18	-	09	MOD Non-Std Plating Thickness
	125	LP	45	H060	-	9.48	-	dB-08	
	95	T		90	-	16	-	02	
	250	T		M	-	300	-	08	
TF	187	V	32	F15	-	2.97	-	08	
	187	S	32		-	.36	-	15	
	93	R1D			-	1.11 I.D.	-	03	MOD Male Contact Ring
	125	G23	C040		-	4.98	-	ML-08	
	1	2	3	4	5	6	7	8	9
	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	1. Optional Material / Material Thickness Prefix		2. Pitch (Inches x 1,000)		3. Style		4. Width / Clip Size (Inches x 1,000)		5. Additional Information (D-Lance Standard, Hook-on, Key Part Features, etc.)
							6. Length (Diameter For Contact Rings)		7. D-Lance & Mini D-Lance optional / DiamondBack (dB) optional / Finish
									8. Modification If Required
									9. Modification Description

1. Optional Material / Material Thickness Prefix: Leave blank for standard thickness. Add "TF" for low compression force. "SS" indicates Stainless Steel.

2. Pitch: Center-to-center distance from one finger to the next (Inches x 1,000).

3. Style: Part Style or Series.

4. Width: Part Width, typically measured parallel to fingers and slots.

Clip Size: "CXXX"=Clip Size, where XXX is typically flange size +.010".

5. Additional Information: "L"=Standard D-Lance; "H060"=Hook-on; "90"=90° Bend; "R" and "A, B, C, T"=Track features; "E50, E78"=Extended Leg; "M"=Clip-on Feature; "FXx"=Determines Repeating Finger Pattern for Variable Snap-on (See page 4.)

6. Length: Full Strips=Length to nearest inch as listed in catalog (24, 18, 16, etc.).

Length: Rolls=Length to nearest inch as listed in catalog (300, 420, etc.).

Also add "M" to Additional Information for all T-Series rolls. (See column 5.)

Length: All Cut-to-Length Parts=Length to 2 decimals: (.XX)=(Pitch) x (Number of Fingers) minus (one slot dimension).

Since individual fingers may not be cut, length is a multiple of a full finger (the Pitch), less the slot dimension. Exceptions are 95A, 95T, 165T, 165T2, 250T, and KS Series, where cut-to-length parts are to 2 decimals and: (.XX)=(Pitch) x (Number of Fingers).

Shows Diameter for contact rings measured by I.D. (Inside Diameter) = Male or O.D. (Outside Diameter) = Female.

7. D-Lance: "L" for optional, non-standard D-Lance. **Mini D-Lance:** "ML" for optional, non-standard Mini D-Lance. Best suited for smaller parts and applications (example: P/N 125G23C040). **DiamondBack:** Optional DiamondBack texturing "dB". **Finish:** See table for finishes.

8. Modification If Required: Add "MOD" for all modified parts. A description of the modification is also required.

9. Modification Description: Specific description of the modification. For example: With 2 Holes .100 Dia., With Conductive Tape, Less Tape, Special Width, Non-Standard Tolerances, Non-standard Material Thickness, Non-standard Plating Thickness, Special Packaging, Male/Female Contact Ring, etc.

Available Finishes

Finish*	Ordering Code
Solderable	01
Clean and Bright	02
Gold.....	03
Silver.....	04
Cadmium/Clear Chromate.....	05
Tin Lead.....	07
Bright Tin	08
Nickel.....	09
Zinc/Clear Chromate	15
Matte Tin.....	16
Electroless Nickel	18
Other.....	00

* For other requirements and specifications of these finishes, consult the factory. Plating is recommended to achieve maximum attenuation over time.

Finger Stock Part Number Directory



How to Order Shielding Samples: The easiest way to order samples is to visit our Free Sample page on our web site. Of course you can also call and supply part numbers, quantities and other appropriate application information.

Part Number	Page	Part Number	Page
60D Reverse Bend Contacts.....	25	187RJ Cylindrical Radius.....	28
60P21 Soft No-slag Fingers.....	16	187S30 Symmetrical Finger Stock (up to 4 fingers).....	11
60R Spherical Radius Finger Stock.....	27	187S32 Symmetrical Finger Stock.....	09 & 11
60RC Reverse Bend Spherical Finger Stock.....	25	187AS32 Alternate Slot Symmetrical Finger Stock (up to 18" long).....	09
75RC Reverse Bend Spherical Finger Stock.....	25	187V32FXx Variable Snap-on Gasket.....	13
75RE Spherical Radius Finger Stock.....	27	187VE32FXx Variable Edge Mount Snap-on Gasket.....	14
75RF Spherical Radius Finger Stock.....	27	187W35 Soft No-slag Fingers.....	15
90B Reverse Bend Contacts.....	26	206W36 Soft No-slag Fingers.....	13
93AS32 Alternate Slot Symmetrical Finger Stock (up to 18" long).....	09	219S60 Symmetrical Finger Stock.....	10 & 12
93R1D Reverse Bend Spherical Finger Stock.....	25	250C040 Clip-on Low Profile Finger Stock.....	21
93S32 Symmetrical Finger Stock (up to 18" long).....	09	250K2C070L Reverse Bend Contacts.....	23
95A Twisted Contacts.....	19	250K4C070 Perpendicular Contacts.....	21
95T Twisted Contacts.....	19	250K070L Reverse Bend Contacts.....	23
95T90 Twisted Contacts.....	19	250KS37 OMNI Single Contact.....	10
95TCXXM Twisted Contacts.....	24	250KS60 OMNI Single Contact.....	11
95TCXXX Twisted Contacts.....	23	250M37 No-slag Fingers.....	18
125C040 Clip-on Low Profile Finger Stock.....	21	250M37E94 No-slag Fingers.....	18
125G23C040 Clip-on Low Profile Finger Stock.....	21	250M42CXXX No-slag Fingers.....	24
125G28 Low Profile Finger Stock.....	15	250P110 Soft No-slag Fingers.....	18
125G32 Low Profile Finger Stock.....	15	250P37 Soft No-slag Fingers.....	17
125LP45 Low Profile Finger Stock.....	15	250P37E50 Soft No-slag Fingers.....	17
125LP45H060 Hook & Stick-on Low Profile Finger Stock.....	16	250S37 Symmetrical Finger Stock.....	09 & 12
125LP55 Low Profile Finger Stock.....	16	250S60 Symmetrical Finger Stock.....	10 & 12
125LP55C070 Clip-on Low Profile Finger Stock.....	21	250T Twisted Contacts.....	20
125LP55H060 Hook & Stick-on Low Profile Finger Stock.....	16	250T90 Twisted Contacts.....	20
125LP60 Low Profile Finger Stock.....	15	250V37FXx Variable Snap-on Gasket.....	14
125LP60H060 Hook & Stick-on Low Profile Finger Stock.....	16	250VE37FXx Variable Edge Mount Snap-on Gasket.....	14
125LPS35 SPIDER Low Profile No-slag Finger Stock.....	15	282V60FXx Variable Snap-on Gasket.....	14
125LPS45H060 SPIDER Hook & Stick-on Low Profile Finger Stock.....	16	375A Strip Gaskets.....	28
125M37 No-slag Fingers.....	18	375B Cylindrical Radius Finger Stock.....	28
125M42CXXX No-slag Fingers.....	24	375CXXX Strip Gaskets.....	22
125P37 Soft No-slag Fingers.....	17	375KS80 OMNI Single Contact.....	11
127A Reverse Bend Contacts.....	25	375M60 No-slag Fingers.....	18
134B Reverse Bend Contacts.....	26	375M60E78 No-slag Fingers.....	18
134C Reverse Bend Contacts.....	26	375P60 Soft No-slag Fingers.....	17
134D Reverse Bend Contacts.....	26	375P64C070 Soft No-slag Fingers.....	24
145A Reverse Bend Contacts.....	26	375P80 Soft No-slag Fingers.....	18
156M32 No-slag Fingers.....	18	375S60 Symmetrical Finger Stock.....	10 & 12
157S20 Symmetrical Finger Stock (up to 15" long).....	09	375S80 Symmetrical Finger Stock.....	10 & 13
165T Twisted Contacts.....	19	500A Strip Gaskets.....	28
165T2 Twisted Contacts.....	20	500P110 Soft No-slag Fingers.....	18
165T90 Twisted Contacts.....	19	LP45 Slotless Gasket.....	20
165TC070 Twisted Contacts.....	23	LP60 Slotless Gasket.....	20
165TCXXM Twisted Contacts.....	23	SS60P21 Stainless Steel Soft No-slag Fingers.....	16
165TW.300 Twisted Contacts.....	19	SS95T Stainless Steel Stick-on Twisted Contacts.....	19
182RF8CXXXL Cylindrical Radius Finger Stock.....	22	SS95T90 Stainless Steel Stick-on Twisted Contacts.....	19
182RF9CXXXL Cylindrical Radius Finger Stock.....	22	SS125LP45 Stainless Steel Low Profile Stick-on Gasket.....	15
187H Reverse Bend Contacts.....	26	SS125LP45H060 Stainless Steel Hook & Stick-on Low Profile.....	16
187KC080 Reverse Bend Contacts.....	23	SS125LP60 Stainless Steel Low Profile Gasket.....	15
187M32 No-slag Fingers.....	18	SS125LP60H060 Stainless Steel Hook & Stick-on Low Profile.....	16
187M60 No-slag Fingers.....	18	SS125LPS45H060 SPIDER Hook & Stick-on Low Profile.....	16
187P21 Soft No-slag Fingers.....	17	SS157S20 Stainless Steel Symmetrical Finger Stock.....	09
187P28 Soft No-slag Fingers.....	17	SS165T Stainless Steel Stick-on Twisted Contacts.....	19
187P32 Soft No-slag Fingers.....	17	SS165T90 Stainless Steel Stick-on Twisted Contacts.....	19
187R,A Cylindrical Radius Finger Stock.....	28	SS182RF9CXXXL Stainless Steel Cylindrical Radius Finger Stock.....	22
187RA Cylindrical Radius Finger Stock.....	28	SS187P21 Soft No-slag Fingers.....	17
187RB Cylindrical Radius Finger Stock.....	27	SS187P32 Soft No-slag Fingers.....	17
187RB1 Spherical Radius Finger Stock.....	27	SS250C040 Stainless Steel Low Profile Clip-on Gasket.....	21
187RC Cylindrical Radius Finger Stock.....	27	SS500A Stainless Steel Strip Gasket.....	28
187RD Reverse Bend Contacts.....	26	SS725EXS-2 Expansion Slot Gasket.....	20
187RD2 Reverse Bend Contacts.....	25	TR32 Mounting Track.....	08
187RF1CXXX Cylindrical Radius Finger Stock.....	22	TR37X Mounting Track.....	08
187RF2CXXX Cylindrical Radius Finger Stock.....	21	TR60X Mounting Track.....	08
187RF3CXXX Cylindrical Radius Finger Stock.....	22	TR80X Mounting Track.....	08
187RF4C070 Cylindrical Radius Finger Stock.....	22		
187RGXXX Cylindrical Radius Finger Stock.....	21		

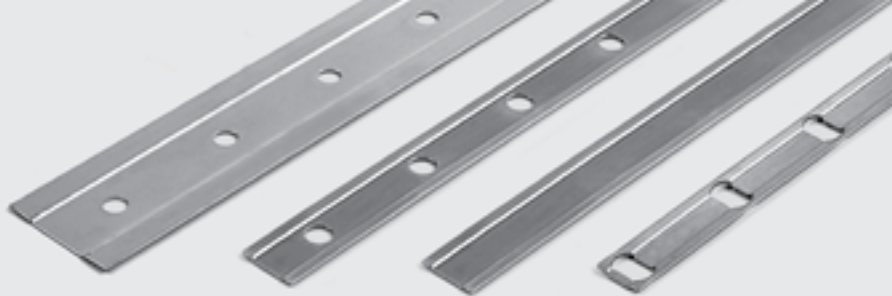
Accessories

PR45 & PR60 Rivets & TCXX "T" Retaining Caps.....08

Note: "TF" Style part numbers are not shown here. See the corresponding standard series part number for page number.

Track

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TR32

[Download Sales Drawing](#)

TRACK

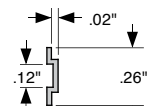
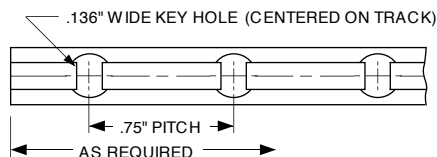
Material: Stainless Steel.

Notes:

For use with Symmetrical Finger Stock 93S32, 93AS32, 187S30, 187S32, 187AS32, TF187S30, TF187S32, TF187AS32.

See page 5 and below for rivet info if required.

Recommended flange mounting hole .125" Diameter.



FEATURE
TR32 T With Tape

TR37X

[Download Sales Drawing](#)

TRACK

Material: Brass.
Finish: Bright.

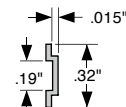
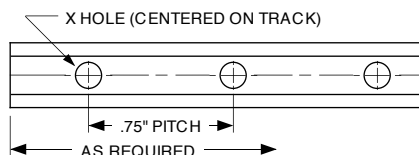
Notes:

For use with Symmetrical Finger Stock 250S37.

See page 5 and below for rivet info if required.

Recommended flange mounting hole .125" Diameter.

Also available with double adhesive transfer tape.



"X"	FEATURE
A	.125" Dia. Holes
B	.136" Dia. Holes
C	.140" x .200" Slots
T	With Tape

TR60X

[Download Sales Drawing](#)

TRACK

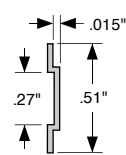
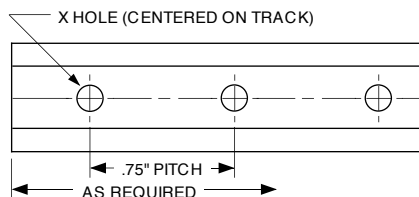
Material: Brass.
Finish: Bright.

Notes:

For use with Symmetrical Finger Stock 219S60, 250S60, 375S60.

See page 5 and below for rivet info if required.

Recommended flange mounting hole .125" Diameter.



"X"	FEATURE
A	.125" Dia. Holes
B	.136" Dia. Holes
C	.140" x .200" Slots
T	With Tape

TR80X

[Download Sales Drawing](#)

TRACK

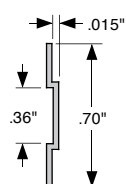
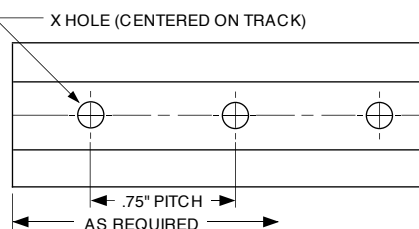
Material: Brass.
Finish: Bright.

Notes:

For use with Symmetrical Finger Stock 375S80.

See page 5 and below for rivet info if required.

Recommended flange mounting hole .125" Diameter.



"X"	FEATURE
A	.125" Dia. Holes
B	.136" Dia. Holes
C	.140" x .200" Slots
T	With Tape

Track Accessories

[Download Rivet Drawing](#)

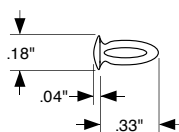
PR45 (WHITE) PLASTIC RIVET

Used on Snap-on Track and OMNI Mounting Pads.

Panel Hole Dia. .123" - .127"

Panel Thickness .02" - .06"

Order PR45 Rivets, if required for your application.



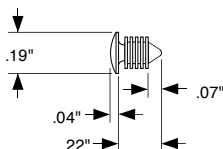
PR60 (BLACK) PLASTIC RIVET

Used on Snap-on Track and OMNI Mounting Pads.

Panel Hole Dia. .118" - .125"

Panel Thickness .045" - .075"

Order PR60 Rivets, if required for your application.



TCXX

[Download TCXX Drawing](#)

"T" RETAINING CAPS

"T" Retaining Caps are

used at the ends of

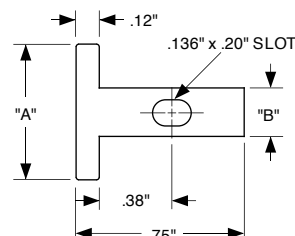
Mounting Track to hold

finger stock in place.

Material: Brass.

Finish: Bright.

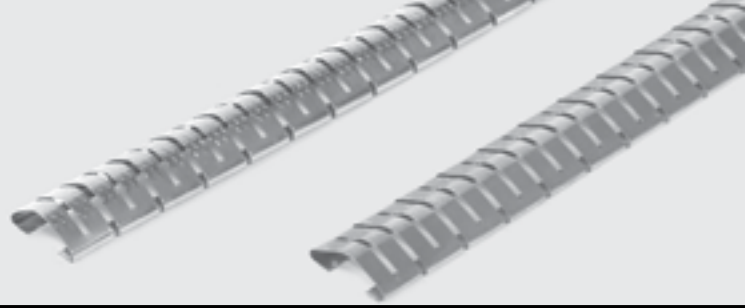
"T" CAP	"A"	"B"
TC37	.45"	.16"
TC60	.70"	.26"
TC80	1.00"	.35"



Track Mounting



Interactive
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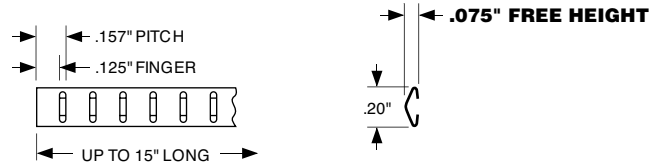
157S20 [Download Sales Drawing](#) SYMMETRICAL

Compression Force

	25% Compression (0.056")	50% Compression (0.038")
Standard .002" Thk.	17.2 lbs/ft	35.8 lbs/ft

Note: For use on customer extrusions.

(SS) Also available in Stainless Steel (SS157S20)



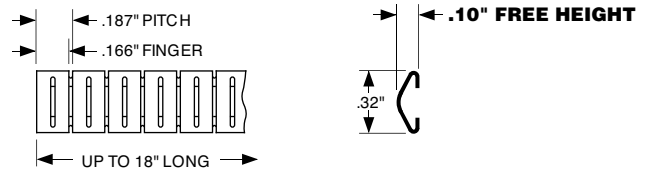
Consult factory for the availability of longer lengths.

93S32 [Download Sales Drawing](#) SYMMETRICAL

Compression Force

	25% Compression (0.075")	50% Compression (0.050")
Standard .002" Thk.	9.1 lbs/ft	18.1 lbs/ft

Note: For use with Track TR32, TR32T.



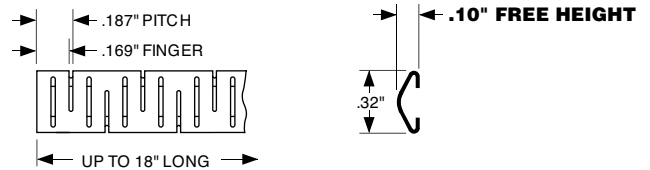
Consult factory for the availability of longer lengths.

93AS32 [Download Sales Drawing](#) SYMMETRICAL ALTERNATE SLOT

Compression Force

	25% Compression (0.075")	50% Compression (0.050")
Standard .002" Thk.	9.1 lbs/ft	18.1 lbs/ft

Note: For use with Track TR32, TR32T.



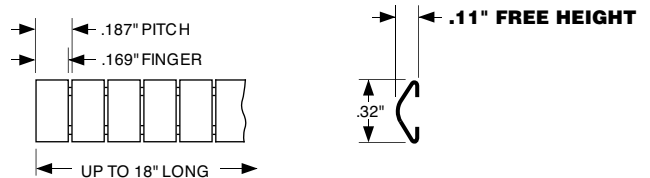
Consult factory for the availability of longer lengths.

187S32 [Download Sales Drawing](#) SYMMETRICAL

Compression Force

	25% Compression (0.083")	50% Compression (0.055")
Standard .0035" Thk.	29 lbs/ft	73 lbs/ft
"TF" Style .002" Thk.	13.5 lbs/ft	28.5 lbs/ft

Note: For use with Track TR32, TR32T.



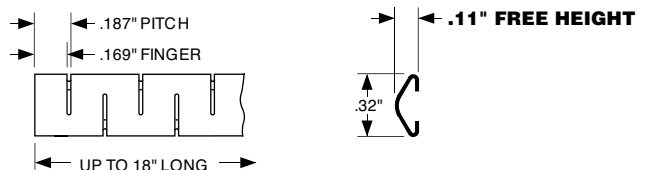
Consult factory for the availability of longer lengths.
See page 8 for rivets and end stops if required.

187AS32 [Download Sales Drawing](#) SYMMETRICAL ALTERNATE SLOT

Compression Force

	25% Compression (0.083")	50% Compression (0.055")
Standard .0035" Thk.	29 lbs/ft	73 lbs/ft
"TF" Style .002" Thk.	13.5 lbs/ft	28.5 lbs/ft

Note: For use with Track TR32, TR32T.



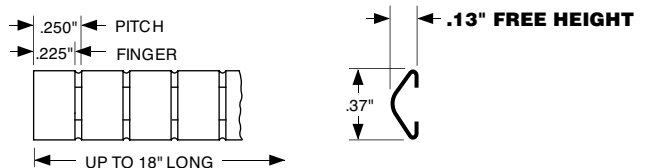
Consult factory for the availability of longer lengths.
See page 8 for rivets and end stops if required.

250S37 [Download Sales Drawing](#) SYMMETRICAL

Compression Force

	25% Compression (0.098")	50% Compression (0.065")
Standard .002" Thk.	9 lbs/ft	17 lbs/ft

Note: For use with Track TR37X.



Consult factory for the availability of longer lengths.
See page 8 for rivets and end stops if required.

Track Mounting



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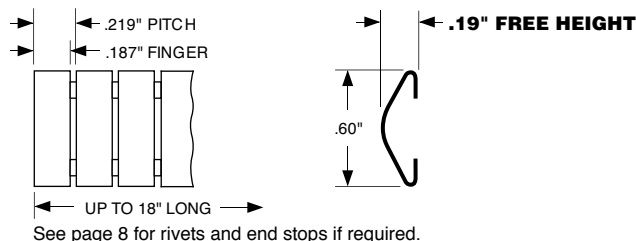
219S60 SYMMETRICAL

[Download Sales Drawing](#)

Compression Force

	25% Compression (0.143")	50% Compression (0.095")
Standard .005" Thk.	10 lbs/ft	26 lbs/ft
"TF" Style .003" Thk.	3.8 lbs/ft	9.5 lbs/ft

Note: For use with Track TR60X.



See page 8 for rivets and end stops if required.

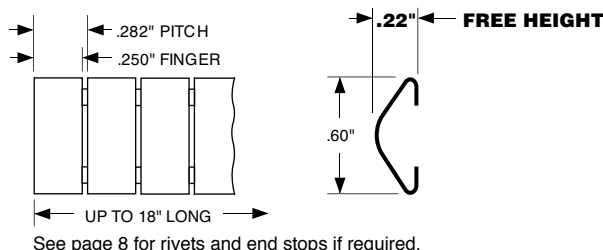
250S60 SYMMETRICAL

[Download Sales Drawing](#)

Compression Force

	25% Compression (0.165")	50% Compression (0.110")
Standard .005" Thk.	11 lbs/ft	27 lbs/ft
"TF" Style .003" Thk.	4.0 lbs/ft	10 lbs/ft

Note: For use with Track TR60X.



See page 8 for rivets and end stops if required.

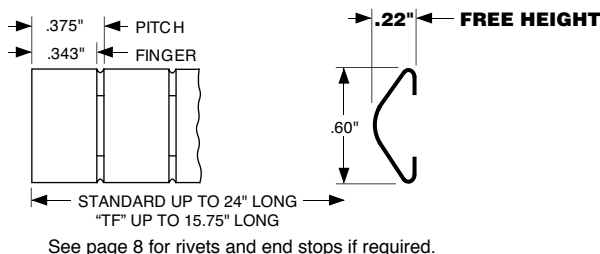
375S60 SYMMETRICAL

[Download Sales Drawing](#)

Compression Force

	25% Compression (0.165")	50% Compression (0.110")
Standard .0035" Thk.	12 lbs/ft	27 lbs/ft
"TF" Style .002" Thk.	3.0 lbs/ft	8.0 lbs/ft

Note: For use with Track TR60X.



See page 8 for rivets and end stops if required.

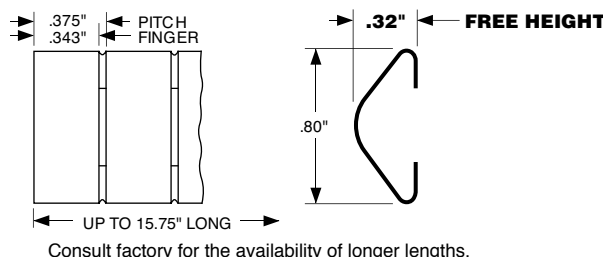
375S80 SYMMETRICAL

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Compression Force

	25% Compression (0.240")	50% Compression (0.160")
Standard .004" Thk.	17 lbs/ft	34 lbs/ft
"TF" Style .003" Thk.	4.0 lbs/ft	6.0 lbs/ft

Note: For use with Track TR80X.



Consult factory for the availability of longer lengths.

Omni Track



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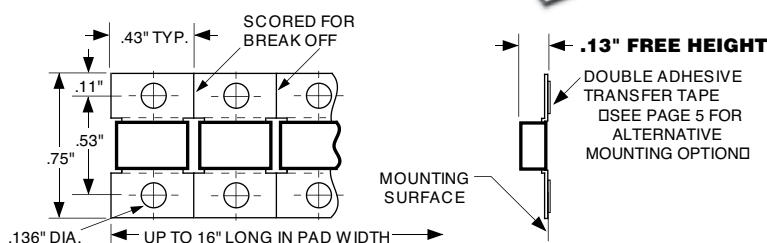
250KS37 OMNI

[Download Sales Drawing](#)

Compression Force - Single Contact

	25% Compression (0.098")	50% Compression (0.065")
Standard	.2 lbs	.4 lbs

Mounting Pad Material: Brass. Finish: Bright.
Other finishes are also available.



OmniTrack



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250KS60

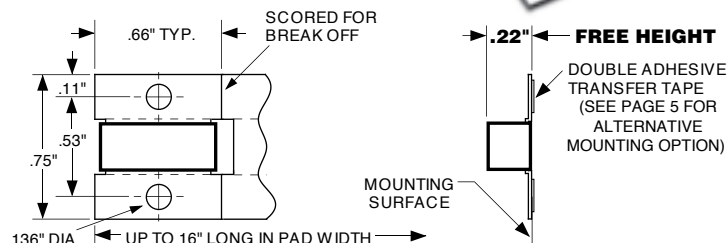
[Download Sales Drawing](#)

OMNI

Compression Force - Single Contact

	25% Compression (0.165")	50% Compression (0.110")
Standard	.05 lbs	.20 lbs

Mounting Pad Material: Brass. Finish: Bright.
Other finishes are also available.



375KS80

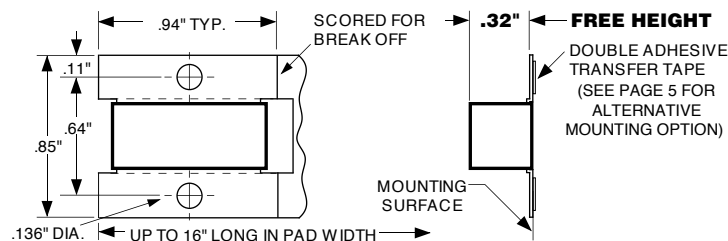
[Download Sales Drawing](#)

OMNI

Compression Force - Single Contact

	25% Compression (0.240")	50% Compression (0.160")
Standard	.5 lbs	2.0 lbs

Mounting Pad Material: Brass. Finish: Bright.
Other finishes are also available.



Snap-on Mounting



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187S32

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SYMMETRICAL
SLOT OR EDGE MOUNT

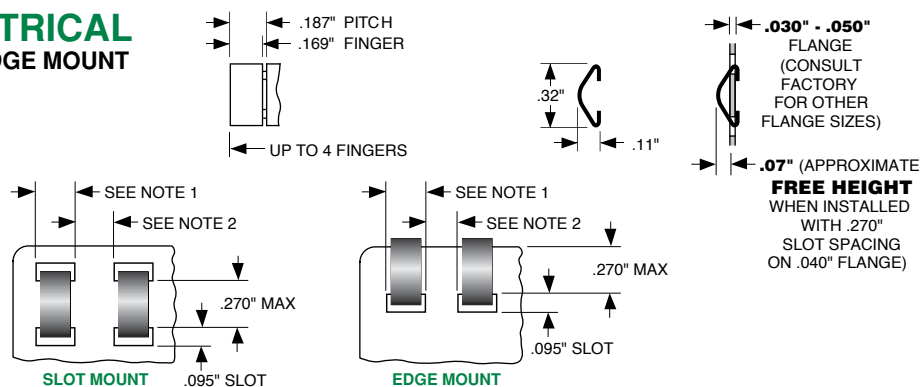
GAP RANGE UP TO .06"

Standard .0035" Thk.
"TF" Style .002" Thk.

APPLICATION DATA

Notes:

1. Length of slot as required by number of fingers.
2. Spacing determined by attenuation requirements.



187S30*

[Download Sales Drawing](#)

SYMMETRICAL
SLOT OR EDGE MOUNT

GAP RANGE UP TO .06"

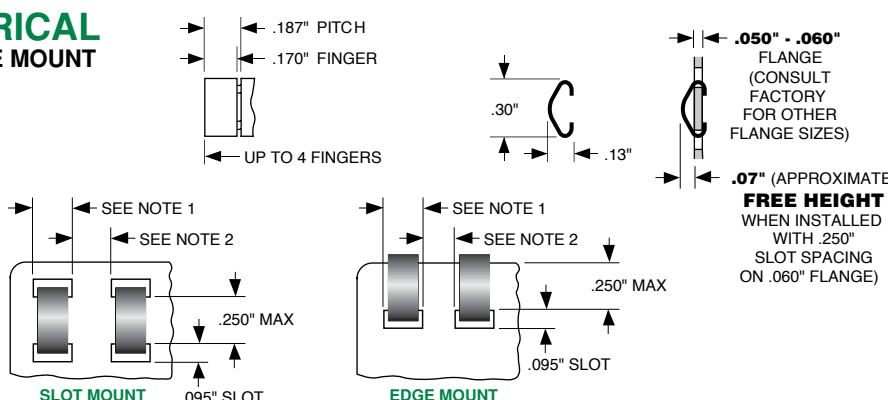
Standard .0035" Thk.
"TF" Style .002" Thk.

APPLICATION DATA

Notes:

1. Length of slot as required by number of fingers.
2. Spacing determined by attenuation requirements.

*Also available in lengths up to 16" for use with Track TR32 or customer extrusions.



Snap-on Mounting



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250S37

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SYMMETRICAL SLOT OR EDGE MOUNT

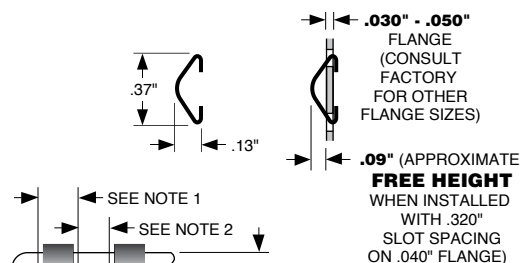
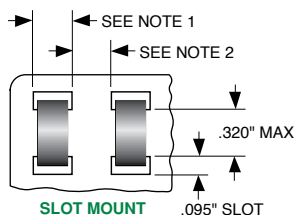
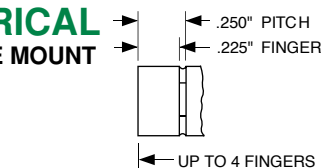
GAP RANGE UP TO .075"

Standard .002" Thk.

APPLICATION DATA

Notes:

1. Length of slot as required by number of fingers.
2. Spacing determined by attenuation requirements.



FREE HEIGHT
WHEN INSTALLED
WITH .320\"/>

219S60

[Download Sales Drawing](#)

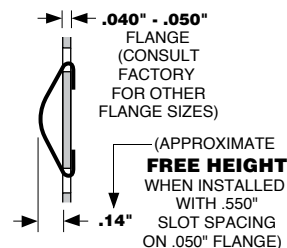
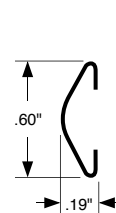
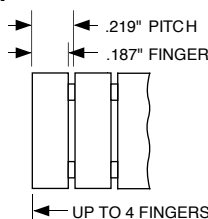
SYMMETRICAL SLOT OR EDGE MOUNT

GAP RANGE UP TO .113"

Standard .005" Thk.
"TF" Style .003" Thk.

APPLICATION DATA

See 375S60 below.



FREE HEIGHT
WHEN INSTALLED
WITH .550\"/>

250S60

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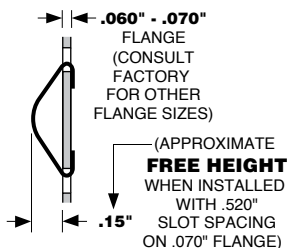
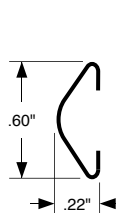
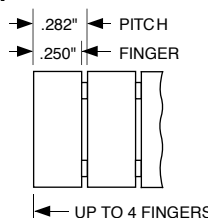
SYMMETRICAL SLOT OR EDGE MOUNT

GAP RANGE UP TO .120"

Standard .005" Thk.
"TF" Style .003" Thk.

APPLICATION DATA

See 375S60 below.



FREE HEIGHT
WHEN INSTALLED
WITH .520\"/>

375S60

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SYMMETRICAL SLOT OR EDGE MOUNT

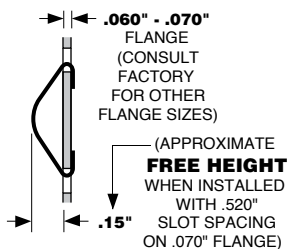
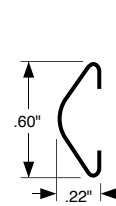
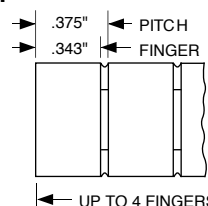
GAP RANGE UP TO .120"

Standard .0035" Thk.
"TF" Style .002" Thk.

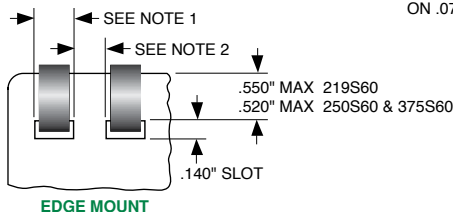
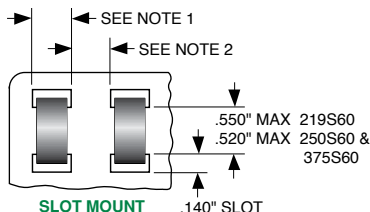
APPLICATION DATA

Notes:

1. Length of slot as required by number of fingers.
2. Spacing determined by attenuation requirements.



FREE HEIGHT
WHEN INSTALLED
WITH .520\"/>



Snap-on Mounting



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Snap-on Mounting

375S80

SYMMETRICAL SLOT OR EDGE MOUNT

GAP RANGE UP TO .195"

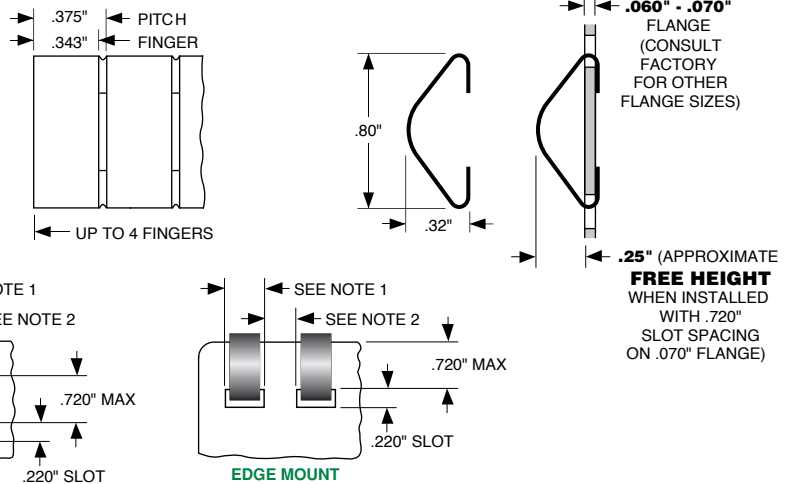
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Standard .004" Thk.
"TF" Style .003" Thk.

APPLICATION DATA

Notes:

1. Length of slot as required by number of fingers.
2. Spacing determined by attenuation requirements.



206W36

SOFT NO-SNAG FINGERS SLOT OR EDGE MOUNT

GAP RANGE UP TO .068"

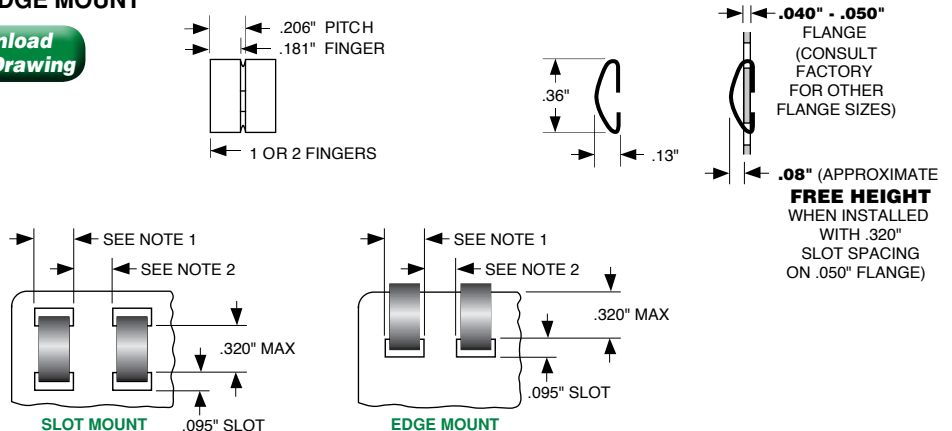
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Sales Drawing](#)

Standard .0025" Thk.

APPLICATION DATA

Notes:

1. Length of slot as required by number of fingers.
2. Spacing determined by attenuation requirements.



187V32FXx

SYMMETRICAL VARIABLE - SLOT MOUNT

GAP RANGE UP TO .06"
Compression Force

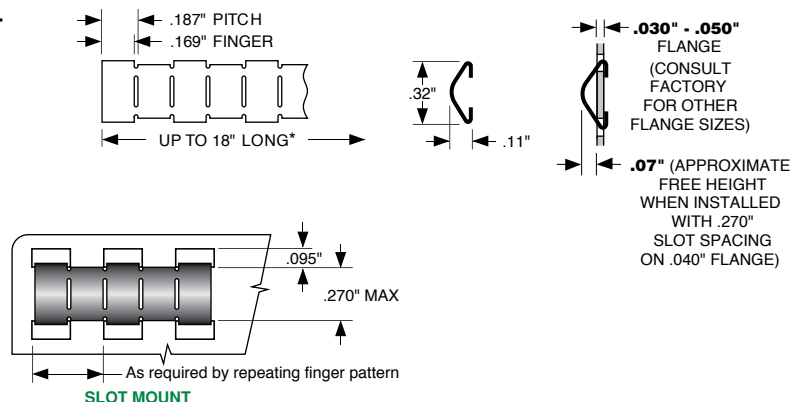
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Sales Drawing](#)

	25% Compression (0.053")	50% Compression (0.035")
Standard .0035" Thk.	2.7 lbs/ft	14 lbs/ft
"TF" Style .002" Thk.	2.5 lbs/ft	6.5 lbs/ft

APPLICATION DATA

Notes:

1. *Actual length determined by finger pattern.
2. See page 4 for standard finger patterns.



Snap-on Mounting



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187VE32FXx

SYMMETRICAL VARIABLE - EDGE MOUNT

GAP RANGE UP TO .06"
Compression Force

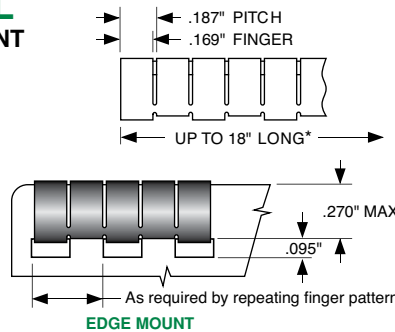
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	25% Compression (0.053")	50% Compression (0.035")
Standard .0035" Thk.	4.1 lbs/ft	14 lbs/ft
"TF" Style .002" Thk.	1.1 lbs/ft	1.3 lbs/ft

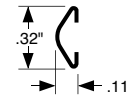
APPLICATION DATA

Notes:

1. *Actual length determined by finger pattern.
2. See page 4 for standard finger patterns.



EDGE MOUNT



(CONSULT FACTORY FOR OTHER FLANGE SIZES)
.030" - .050" FLANGE
.07" (APPROXIMATE FREE HEIGHT WHEN INSTALLED WITH .270" SLOT SPACING ON .040" FLANGE)

250V37FXx

SYMMETRICAL VARIABLE - SLOT MOUNT

GAP RANGE UP TO .075"

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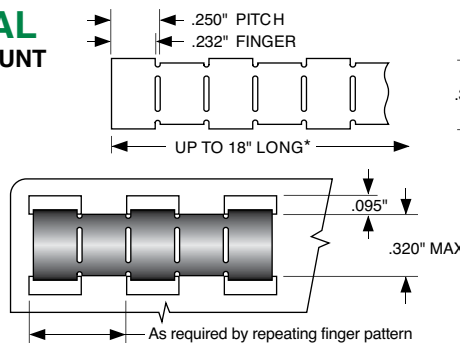
Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .002" Thk.	1.3 lbs/ft	6.9 lbs/ft

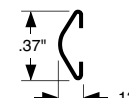
APPLICATION DATA

Notes:

1. *Actual length determined by finger pattern.
2. See page 4 for standard finger patterns.



SLOT MOUNT



(CONSULT FACTORY FOR OTHER FLANGE SIZES)
.030" - .050" FLANGE
.09" (APPROXIMATE FREE HEIGHT WHEN INSTALLED WITH .320" SLOT SPACING ON .040" FLANGE)

250VE37FXx

SYMMETRICAL VARIABLE - EDGE MOUNT

GAP RANGE UP TO .075"

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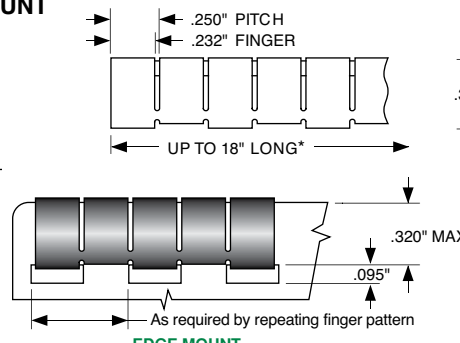
Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .002" Thk.	1.5 lbs/ft	4.1 lbs/ft

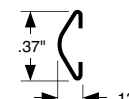
APPLICATION DATA

Notes:

1. *Actual length determined by finger pattern.
2. See page 4 for standard finger patterns.



EDGE MOUNT



(CONSULT FACTORY FOR OTHER FLANGE SIZES)
.030" - .050" FLANGE
.09" (APPROXIMATE FREE HEIGHT WHEN INSTALLED WITH .320" SLOT SPACING ON .040" FLANGE)

282V60FXx

SYMMETRICAL VARIABLE - SLOT MOUNT

GAP RANGE UP TO .120"

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Compression Force

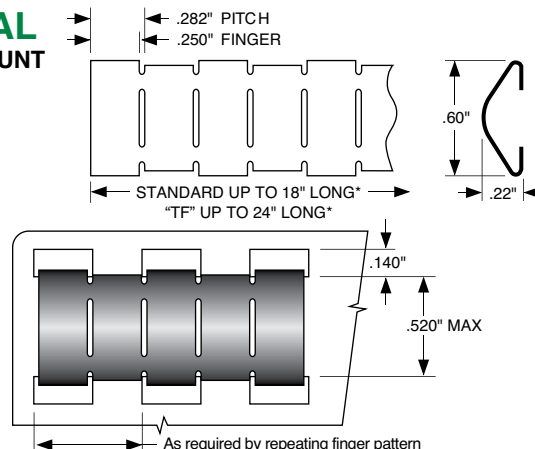
	25% Compression (0.113")	50% Compression (0.075")
Standard .005" Thk.	10 lbs/ft	27 lbs/ft
"TF" Style .003" Thk.	**	**

** Note: Consult factory for performance data.

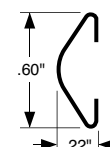
APPLICATION DATA

Notes:

1. *Actual length determined by finger pattern.
2. See page 4 for standard finger patterns.



SLOT MOUNT



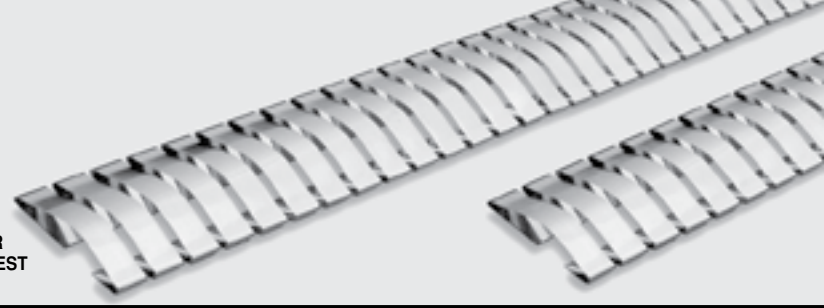
(CONSULT FACTORY FOR OTHER FLANGE SIZES)
.060" - .070" FLANGE
.15" (APPROXIMATE FREE HEIGHT WHEN INSTALLED WITH .520" SLOT SPACING ON .070" FLANGE)

Stick-on Mounting



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187W35*

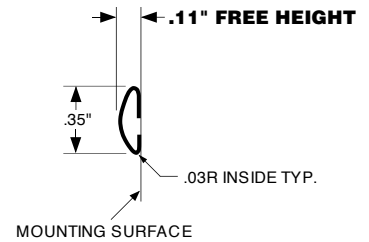
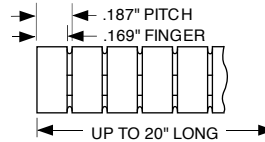
SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.083")	50% Compression (0.055")
Standard .003" Thk.	25 lbs/ft	89 lbs/ft
"TF" Style .002" Thk.	6.0 lbs/ft	23 lbs/ft

* Note: Standard part does not include tape. Part is available with double adhesive transfer tape (-MOD see p.6).



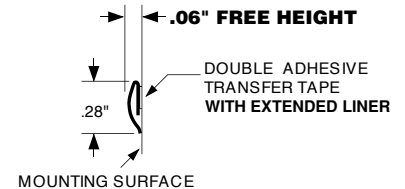
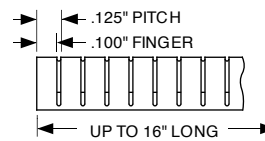
125G28

LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.045")	50% Compression (0.030")
Standard .002" Thk.	5.5 lbs/ft	20.4 lbs/ft



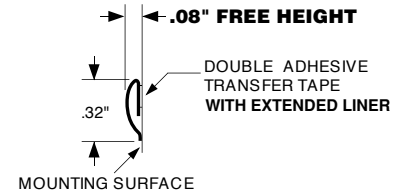
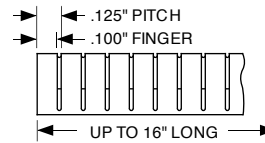
125G32

LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .002" Thk.	6.8 lbs/ft	17 lbs/ft



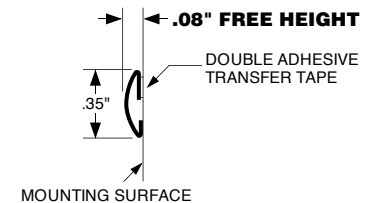
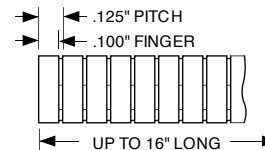
125LPS35

SPIDER LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .002" Thk.	13 lbs/ft	24 lbs/ft



125LP45

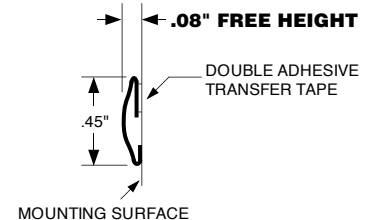
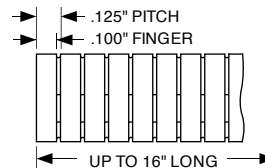
LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .0035" Thk.	10 lbs/ft	19 lbs/ft
"TF" Style .0025" Thk.	8.9 lbs/ft	17 lbs/ft

Note: (SS) Also available in Stainless Steel (SS125LP45)



125LP60

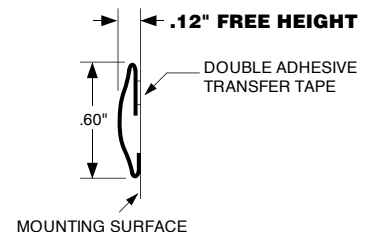
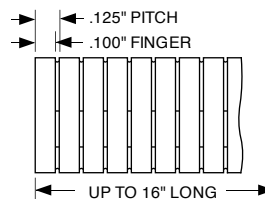
LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .0035" Thk.	12 lbs/ft	24 lbs/ft
"TF" Style .0025" Thk.	5.0 lbs/ft	11 lbs/ft

Note: (SS) Also available in Stainless Steel (SS125LP60)



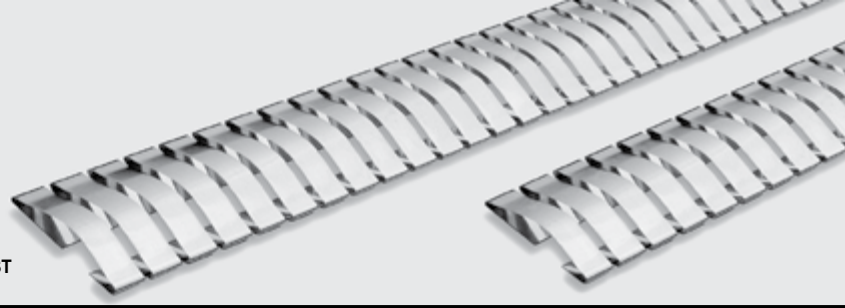
Stick-on Mounting

Stick-on Mounting



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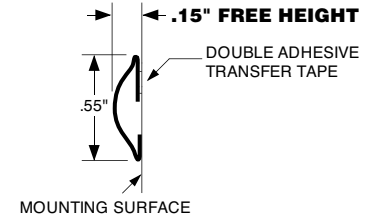
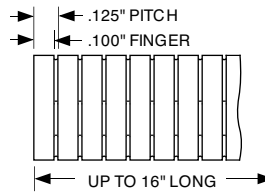


125LP55 LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.113")	50% Compression (0.075")
Standard .0035" Thk.	19 lbs/ft	35 lbs/ft
"TF" Style .0025" Thk.	7.5 lbs/ft	14 lbs/ft



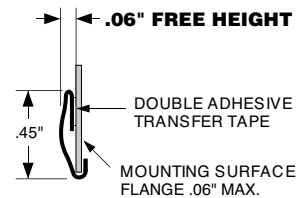
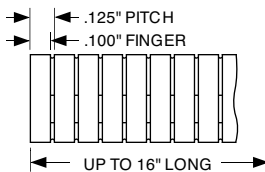
125LP45H060 HOOK & STICK-ON LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.045")	50% Compression (0.030")
Standard .0035" Thk.	10 lbs/ft	19 lbs/ft
"TF" Style .0025" Thk.	6.4 lbs/ft	17 lbs/ft

Note: (SS) Also available in Stainless Steel (SS125LP45H060)



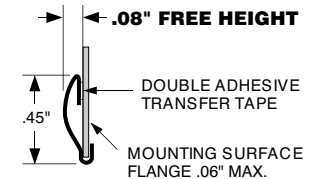
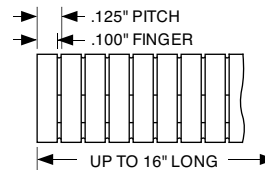
125LPS45H060 SPIDER HOOK & STICK-ON LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .002" Thk.	4.8 lbs/ft	8.7 lbs/ft

Note: (SS) Also available in Stainless Steel (SS125LPS45H060)



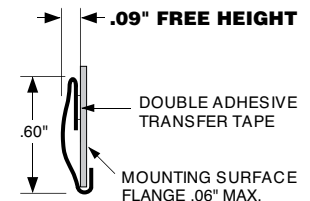
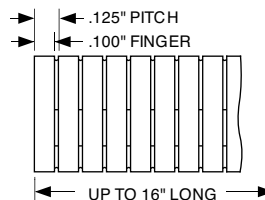
125LP60H060 HOOK & STICK-ON LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.068")	50% Compression (0.045")
Standard .0035" Thk.	8.7 lbs/ft	17.3 lbs/ft
"TF" Style .0025" Thk.	5.8 lbs/ft	9.0 lbs/ft

Note: (SS) Also available in Stainless Steel (SS125LP60H060)

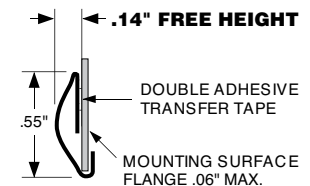
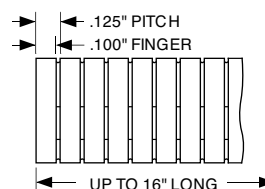


125LP55H060 HOOK & STICK-ON LOW PROFILE NO-SNAG

Compression Force

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	25% Compression (0.105")	50% Compression (0.070")
Standard .0035" Thk.	19 lbs/ft	35 lbs/ft
"TF" Style .0025" Thk.	6.8 lbs/ft	14 lbs/ft



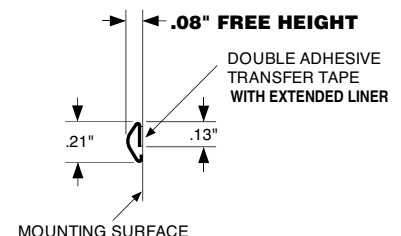
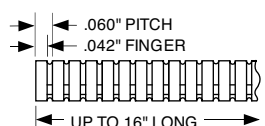
60P21 SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .002" Thk.	11 lbs/ft	34 lbs/ft

Note: (SS) Also available in Stainless Steel (SS60P21)

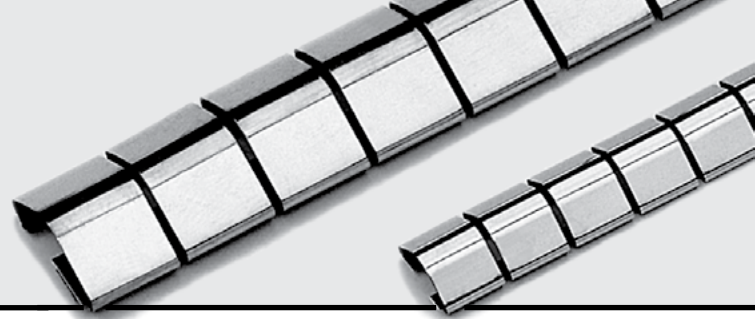


Stick-on Mounting



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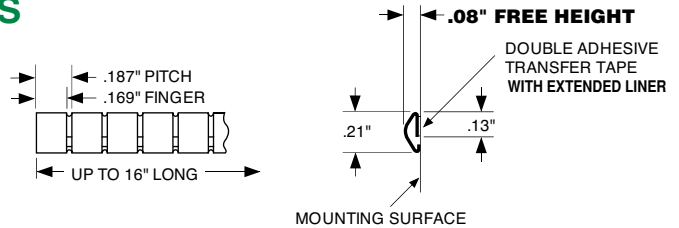
187P21 SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .002" Thk.	17 lbs/ft	47 lbs/ft

Note: Also available in Stainless Steel (SS187P21)



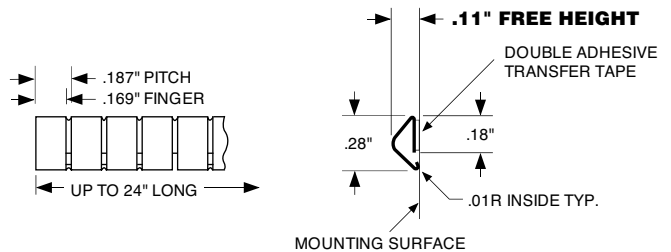
187P28 SOFT FINGERS

Compression Force

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	25% Compression (0.083")	50% Compression (0.055")
Standard .002" Thk.	15 lbs/ft	32 lbs/ft

Note: Also available in 25 ft. rolls.



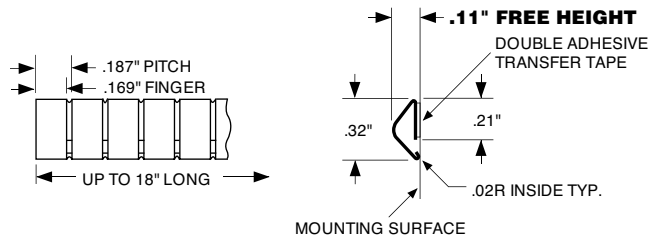
187P32 SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.083")	50% Compression (0.055")
Standard .002" Thk.	14 lbs/ft	26 lbs/ft

Note: SS Also available in Stainless Steel (SS187P32)



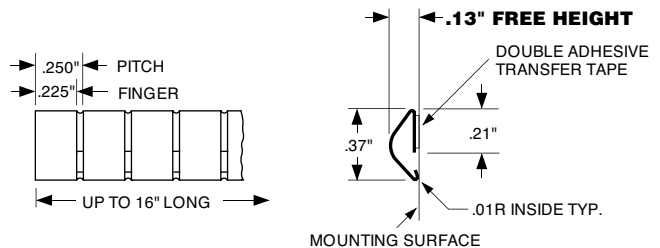
250P37 SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.098")	50% Compression (0.065")
Standard .002" Thk.	10 lbs/ft	21 lbs/ft

Note: Also available in .125" pitch. (125P37)

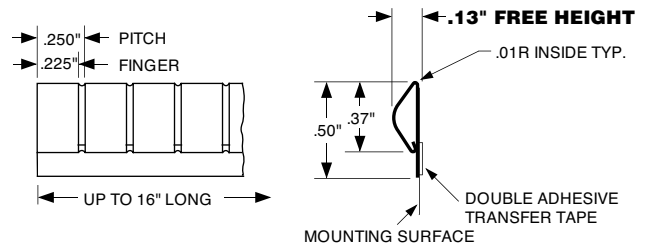


250P37E50 SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.098")	50% Compression (0.065")
Standard .002" Thk.	10 lbs/ft	21 lbs/ft

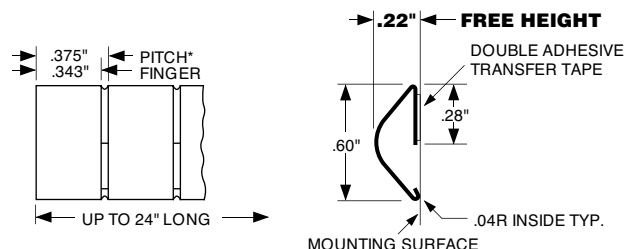


375P60 SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.165")	50% Compression (0.110")
Standard .0035" Thk.	10 lbs/ft	20 lbs/ft
"TF" Style .002" Thk.	2.0 lbs/ft	7.2 lbs/ft



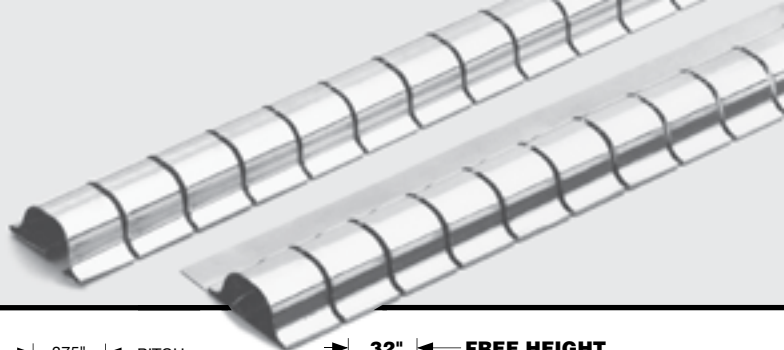
Stick-on Mounting

Stick-on Mounting



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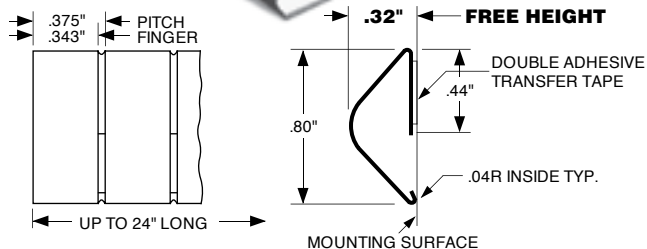
375P80

SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.240")	50% Compression (0.160")
Standard .004" Thk.	7.0 lbs/ft	17 lbs/ft



500P110

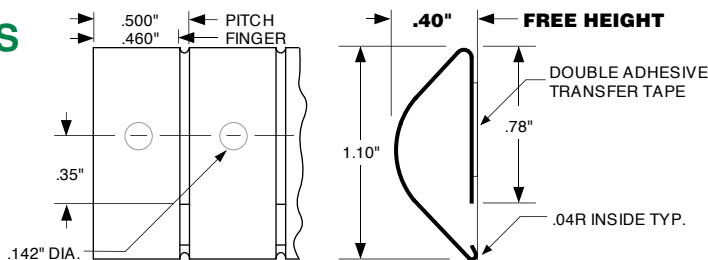
SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.300")	50% Compression (0.200")
Standard .005" Thk.	12 lbs/ft	24 lbs/ft

Notes: Up to 18" long.
Also available in .250" Pitch. (250P110)



156M32

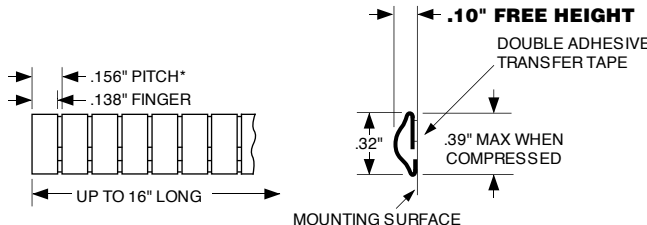
NO-SNAG FINGERS

Compression Force

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	25% Compression (0.075")	50% Compression (0.050")
Standard .0035" Thk.	30 lbs/ft	76 lbs/ft

Note: Also available in .187" Pitch. (187M32)



250M37

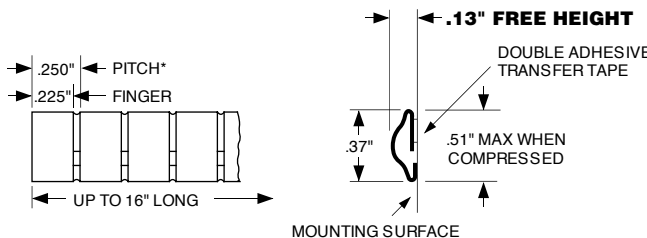
NO-SNAG FINGERS

Compression Force

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	25% Compression (0.098")	50% Compression (0.065")
Standard .0035" Thk.	30 lbs/ft	60 lbs/ft

Note: Also available in .125" Pitch (125M37) or with Extended Leg (250M37E94).



375M60

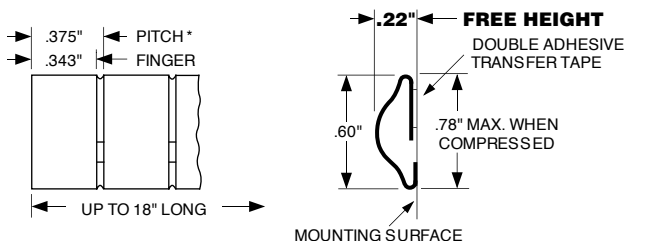
NO-SNAG FINGERS

Compression Force

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	25% Compression (0.165")	50% Compression (0.110")
Standard .0035" Thk.	13 lbs/ft	32 lbs/ft

Note: Also available in .187" Pitch. (187M60)



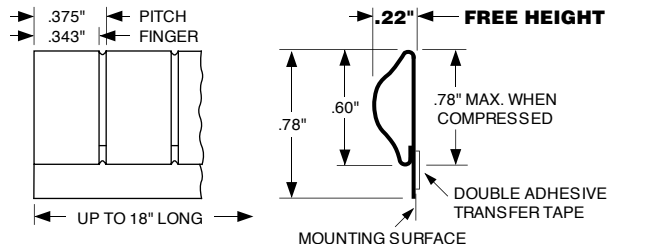
375M60E78

NO-SNAG FINGERS

Compression Force

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	25% Compression (0.165")	50% Compression (0.110")
Standard .0035" Thk.	13 lbs/ft	32 lbs/ft



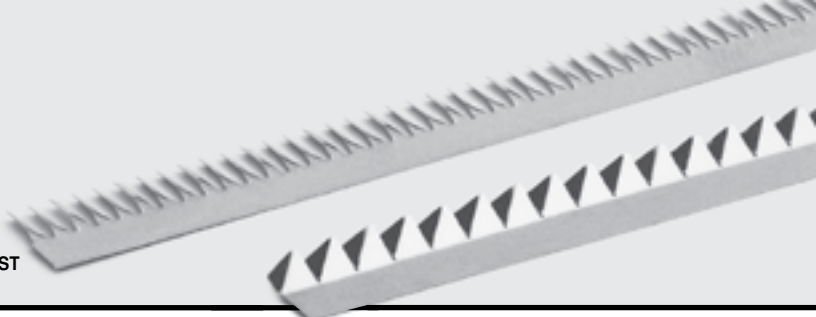
Stick-on Mounting

Interactive



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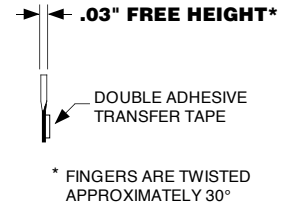
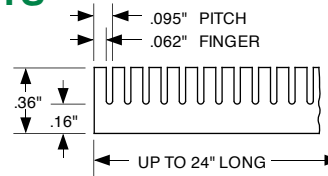
95A

TWISTED CONTACTS

Compression Force

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	25% Compression (0.023")	50% Compression (0.015")
Standard .005" Thk.	15 lbs/ft	69 lbs/ft



95T

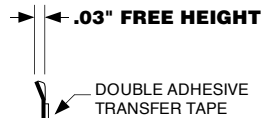
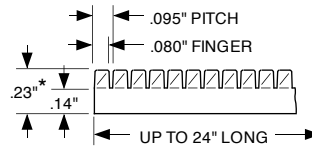
TWISTED CONTACTS

Compression Force

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	25% Compression (0.023")	50% Compression (0.015")
Standard .003" Thk.	5.8 lbs/ft	35 lbs/ft
"TF" Style .002" Thk.	4.9 lbs/ft	19 lbs/ft

Notes: Also available in 25 ft. rolls. (95TM / TF95TM)
(SS) Also available in Stainless Steel (SS95T)



* COMPRESSED DIM.

95T90

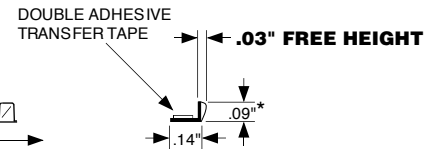
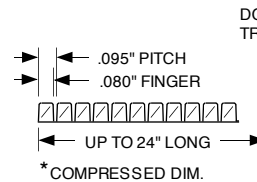
TWISTED CONTACTS

Compression Force

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	25% Compression (0.023")	50% Compression (0.015")
Standard .003" Thk.	12 lbs/ft	51 lbs/ft
"TF" Style .002" Thk.	2.5 lbs/ft	10 lbs/ft

Note: (SS) Also available in Stainless Steel (SS95T90)



* COMPRESSED DIM.

165TW.300

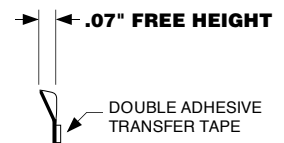
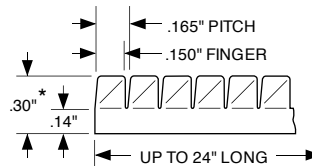
TWISTED CONTACTS

Compression Force

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	25% Compression (0.053")	50% Compression (0.035")
Standard .003" Thk.	18 lbs/ft	36 lbs/ft

Note: Also available in 25 ft. rolls. (165TMW.300)



* COMPRESSED DIM.

165T

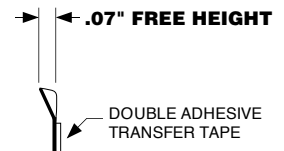
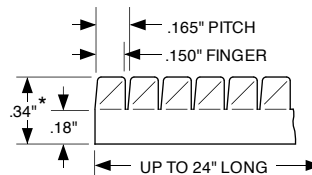
TWISTED CONTACTS

Compression Force

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	25% Compression (0.053")	50% Compression (0.035")
Standard .003" Thk.	18 lbs/ft	36 lbs/ft
"TF" Style .002" Thk.	4.2 lbs/ft	11 lbs/ft

Notes: Also available in 25 ft. rolls. (165TM / TF165TM)
(SS) Also available in Stainless Steel (SS165T)



* COMPRESSED DIM.

165T90

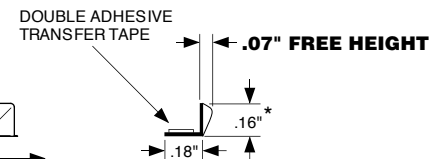
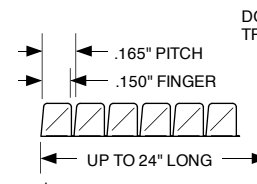
TWISTED CONTACTS

Compression Force

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	25% Compression (0.053")	50% Compression (0.035")
Standard .003" Thk.	18 lbs/ft	36 lbs/ft
"TF" Style .002" Thk.	4.2 lbs/ft	11 lbs/ft

Note: (SS) Also available in Stainless Steel (SS165T90)



* COMPRESSED DIM.

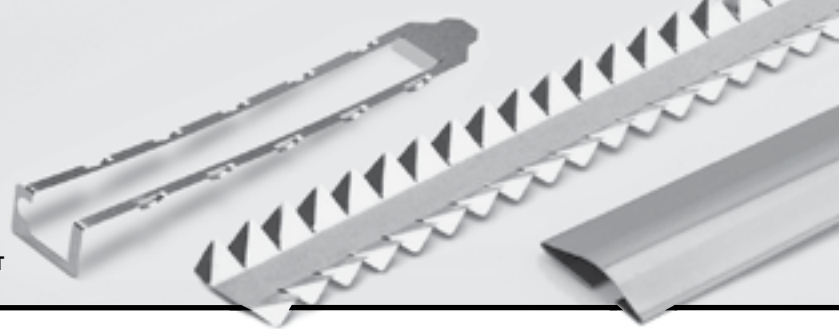
Stick-on Mounting

Stick-on Mounting



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165T2

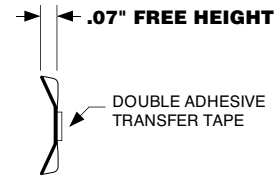
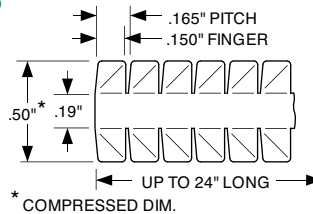
TWISTED CONTACTS

Compression Force

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	25% Compression (0.053")	50% Compression (0.035")
Standard .003" Thk.	19 lbs/ft	38 lbs/ft

Note: Also available in 25 ft. rolls. (165T2M)



250T

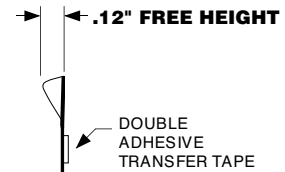
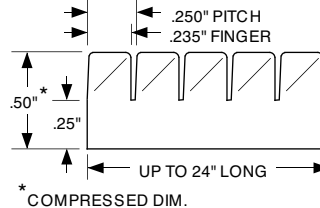
TWISTED CONTACTS

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .003" Thk.	5.0 lbs/ft	11 lbs/ft

Note: Also available in 25 ft. rolls. (250TM)



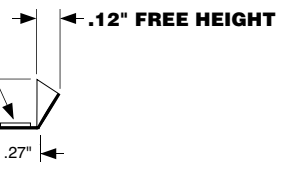
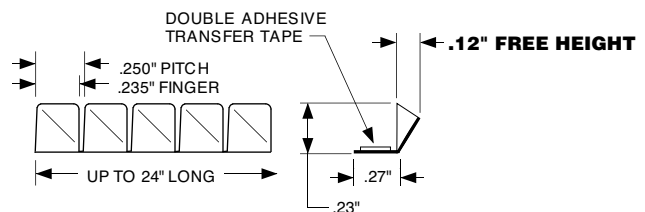
250T90

TWISTED CONTACTS

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .003" Thk.	5.0 lbs/ft	11 lbs/ft



LP45

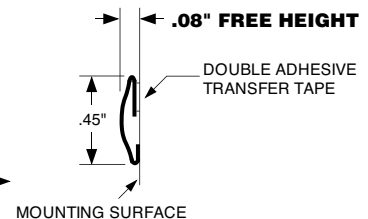
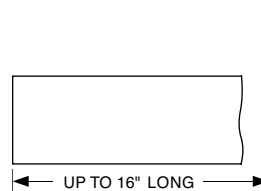
SLOTLESS GASKET

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .0035" Thk.	12 lbs/ft	50 lbs/ft
"TF" Style .0025" Thk.	*	*

* Note: Consult factory for performance data.



LP60

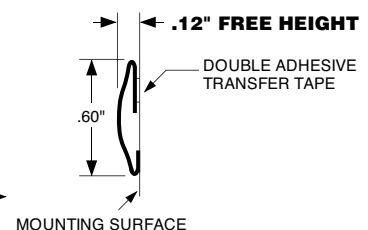
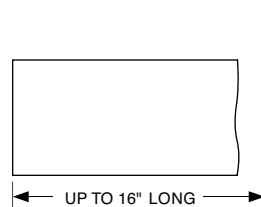
SLOTLESS GASKET

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .0035" Thk.	13 lbs/ft	35 lbs/ft
"TF" Style .0025" Thk.	*	*

* Note: Consult factory for performance data.



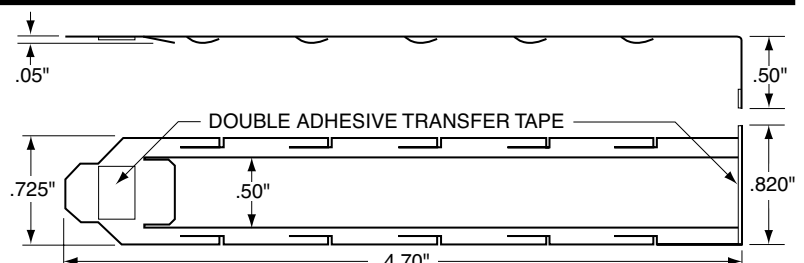
SS725EXS-2

EXPANSION SLOT GASKET

Stainless Steel
.004" Thk.

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Note: Drawing shown at reduced scale.

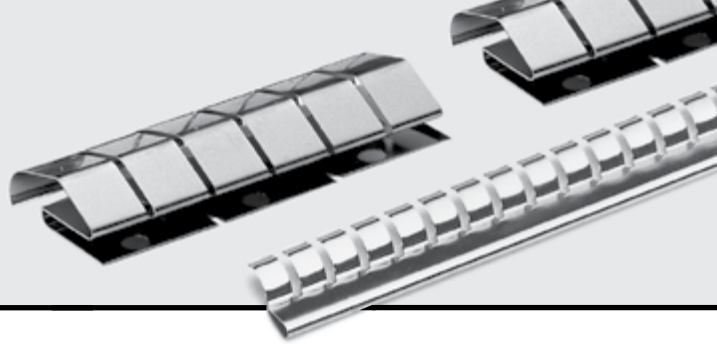


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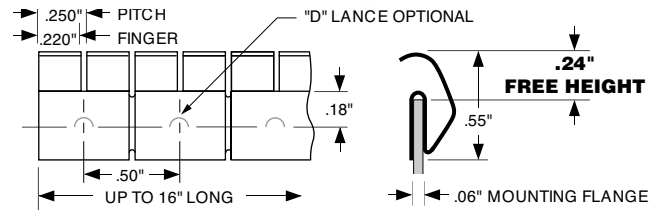
250K4C070 PERPENDICULAR CONTACT

Compression Force

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	25% Compression (0.180")	50% Compression (0.120")
Standard .005" Thk.	5.8 lbs/ft	15.0 lbs/ft
"TF" Style .003" Thk.	2.6 lbs/ft	4.8 lbs/ft

Note: Consult factory for single finger capabilities.



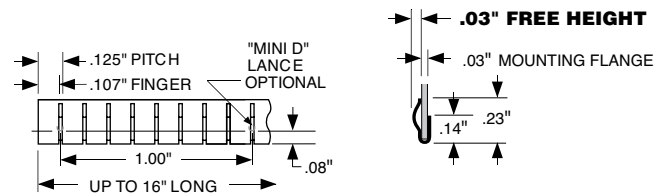
125G23C040 LOW PROFILE

Compression Force

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	25% Compression (0.023")	50% Compression (0.015")
Standard .002" Thk.	Consult Factory	Consult Factory

Notes: Optional "Mini D" lance available as shown.



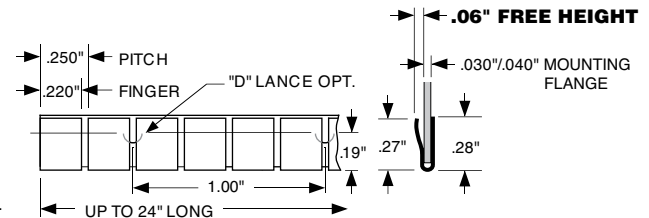
250C040 LOW PROFILE

Compression Force

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	25% Compression (0.045")	50% Compression (0.030")
Standard .006" Thk.	15 lbs/ft	83 lbs/ft
"TF" Style .0035" Thk.	6.6 lbs/ft	30 lbs/ft

Notes: Optional lance available as shown. Also available in .125 Pitch (125C040).
(SS) Also available in Stainless Steel (SS250C040)



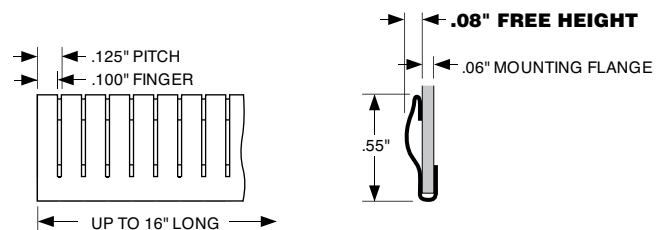
125LP55C070 LOW PROFILE

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .0035" Thk.	9.6 lbs/ft	32 lbs/ft
"TF" Style .0025" Thk.	5.7 lbs/ft	17 lbs/ft

Note: See page 4 for available lances.



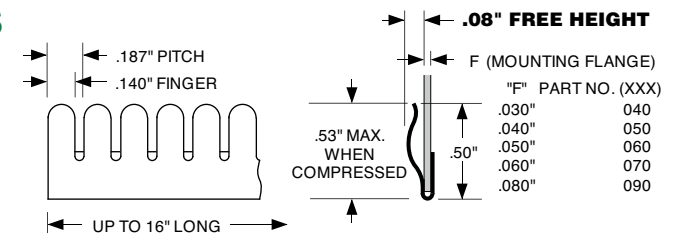
187RGCXXX CYLINDRICAL RADIUS

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .005" Thk.	12 lbs/ft	93 lbs/ft

Note: See page 4 for available lances.



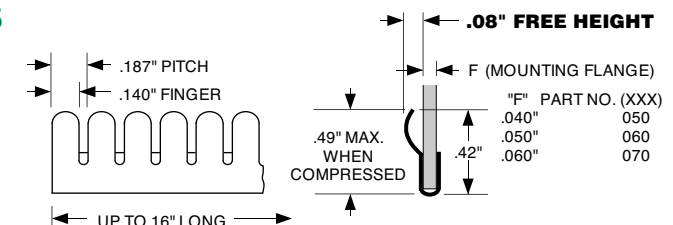
187RF2CXXX CYLINDRICAL RADIUS

Compression Force

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	25% Compression (0.060")	50% Compression (0.040")
Standard .005" Thk.	23 lbs/ft	140 lbs/ft

Note: See page 4 for available lances.

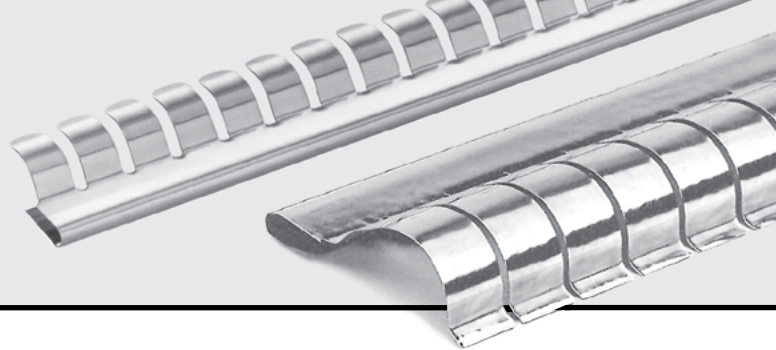


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182RF9CXXXL CYLINDRICAL RADIUS

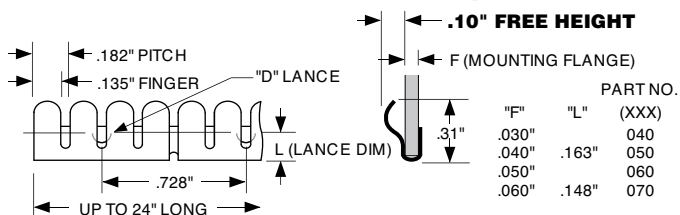
Compression Force

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	25% Compression (0.075")	50% Compression (0.050")
Standard .005" Thk.	14 lbs/ft	49 lbs/ft
"TF" Style .003" Thk.	4.5 lbs/ft	22 lbs/ft

Note: Non-standard lance location(s).

(SS) Also available in Stainless Steel (SS182RF9CXXXL)



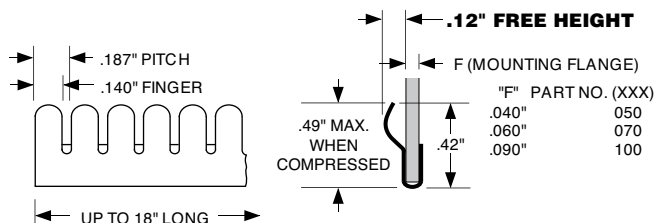
187RF1CXXX CYLINDRICAL RADIUS

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .005" Thk.	12 lbs/ft	84 lbs/ft
"TF" Style .0035" Thk.	9.2 lbs/ft	20.4 lbs/ft

Notes: See page 4 for available lances.



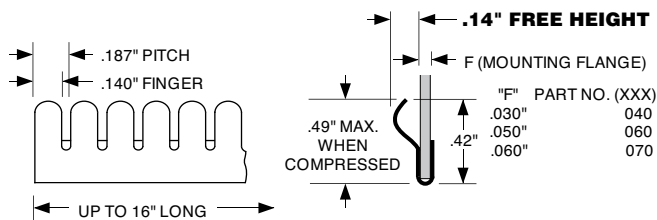
187RF3CXXX CYLINDRICAL RADIUS

Compression Force

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	25% Compression (0.105")	50% Compression (0.070")
Standard .005" Thk.	19.6 lbs/ft	41.8 lbs/ft
"TF" Style .0035" Thk.	12.8 lbs/ft	25.8 lbs/ft

Notes: See page 4 for available lances.



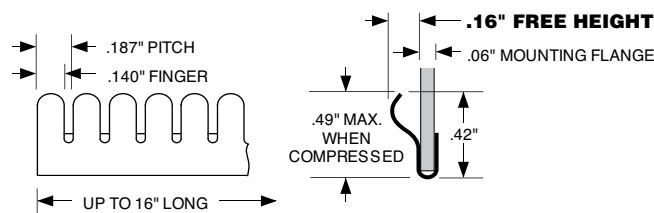
187RF4C070 CYLINDRICAL RADIUS

Compression Force

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	25% Compression (0.120")	50% Compression (0.080")
Standard .005" Thk.	11 lbs/ft	69 lbs/ft
"TF" Style .0035" Thk.	6.9 lbs/ft	21 lbs/ft

Note: See page 4 for available lances.



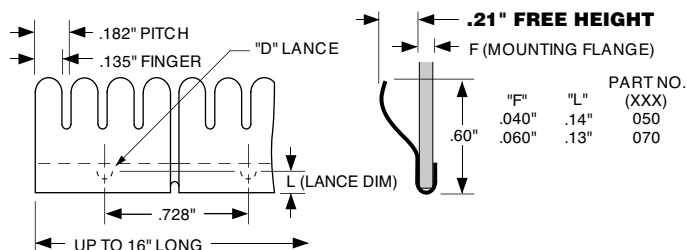
182RF8CXXXL CYLINDRICAL RADIUS

Compression Force

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	25% Compression (0.158")	50% Compression (0.105")
Standard .005" Thk.	3.5 lbs/ft	16 lbs/ft

Note: Non-standard lance location(s).



375CXXX STRIP GASKETS

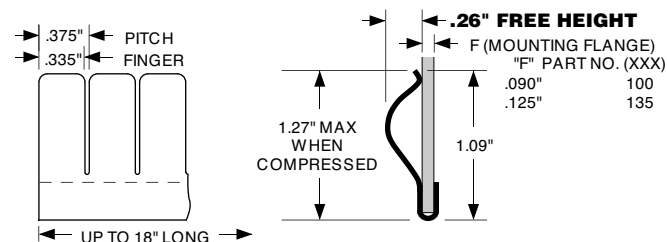
Compression Force

[Download Sales Drawing](#)

	25% Compression (0.195")	50% Compression (0.130")
Standard .005" Thk.	17 lbs/ft	43 lbs/ft

Notes: Drawing shown at reduced scale.

See page 4 for available lances. Consult factory for other clip sizes.



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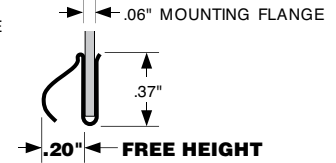
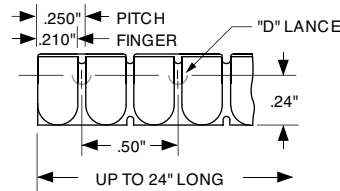
250KC070L REVERSE BEND CONTACTS

Compression Force

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	25% Compression (0.150")	50% Compression (0.100")
Standard .005" Thk.	5.0 lbs/ft	15 lbs/ft

Notes: Non-standard lance location(s). Also available in 25 ft. rolls.
Scores for break off between 1/2" increments optional.
Consult factory for single finger capabilities.



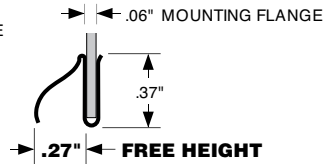
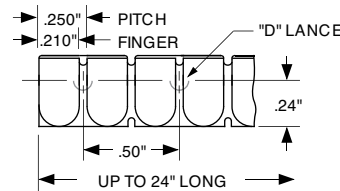
250K2C070L REVERSE BEND CONTACTS

Compression Force

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	25% Compression (0.203")	50% Compression (0.135")
Standard .005" Thk.	5.0 lbs/ft	15 lbs/ft

Notes: Non-standard lance location(s). Also available in 25 ft. rolls.
Scores for break off between 1/2" increments optional.
Consult factory for single finger capabilities.



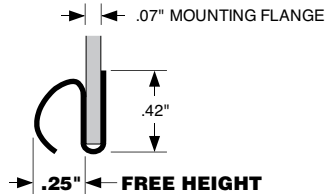
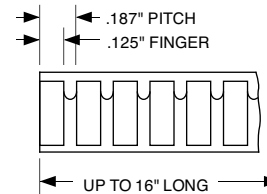
187KC080 REVERSE BEND CONTACTS

Compression Force

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	25% Compression (0.188")	50% Compression (0.125")
Standard .005" Thk.	12 lbs/ft	44 lbs/ft

Note: See page 4 for available lances.



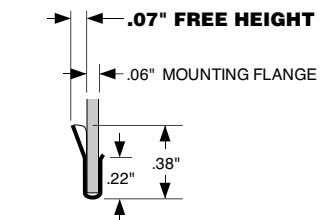
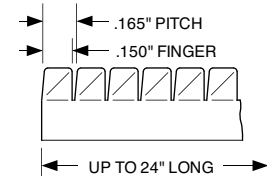
165TC070 TWISTED CONTACTS

Compression Force

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	25% Compression (0.053")	50% Compression (0.035")
Standard .003" Thk.	10 lbs/ft	22 lbs/ft

Note: See page 4 for available lances.



165TCXXXM TWISTED CONTACTS

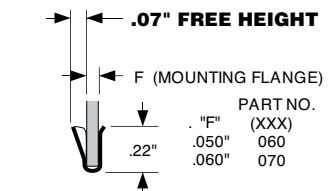
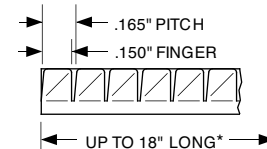
Compression Force

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	25% Compression (0.053")	50% Compression (0.035")
Standard .003" Thk.	10 lbs/ft	22 lbs/ft

Note: See page 4 for available lances.

* Consult factory for longer lengths.



95TCXXX TWISTED CONTACTS

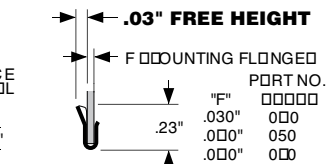
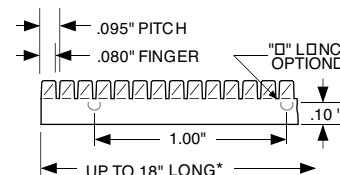
Compression Force

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	25% Compression (0.023")	50% Compression (0.015")
Standard .003" Thk.	32 lbs/ft	48 lbs/ft

Note: Optional lance available as shown.

* Consult factory for longer lengths.

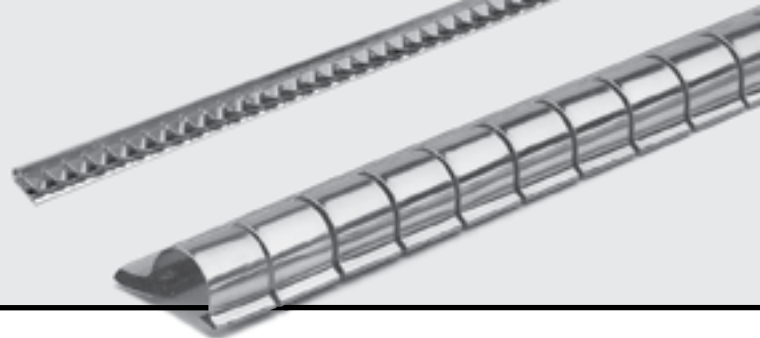


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95TCXXXM

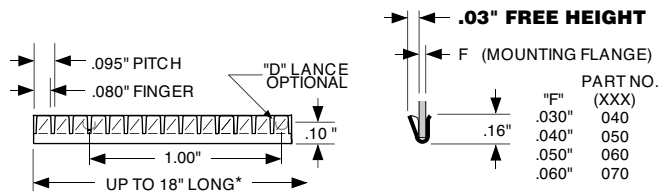
TWISTED CONTACTS

Compression Force

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	25% Compression (0.023")	50% Compression (0.015")
Standard .003" Thk.	32 lbs/ft	48 lbs/ft

Note: Optional lance available as shown.
* Consult factory for longer lengths.



125M42CXXX

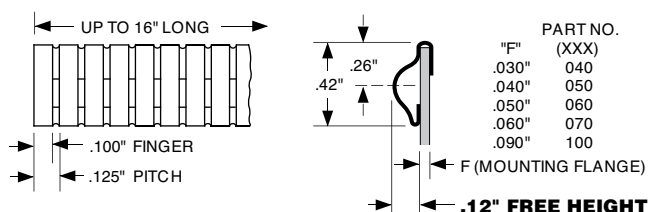
NO-SNAG FINGERS

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .0035" Thk.	23 lbs/ft	55 lbs/ft
"TF" Style .0025" Thk.	12 lbs/ft	28 lbs/ft

Note: See page 4 for available lances.



250M42CXXX

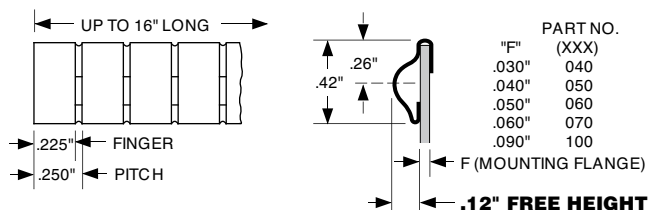
NO-SNAG FINGERS

Compression Force

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	25% Compression (0.090")	50% Compression (0.060")
Standard .0035" Thk.	29 lbs/ft	69 lbs/ft
"TF" Style .0025" Thk.	15 lbs/ft	35 lbs/ft

Note: See page 4 for available lances.



375P64C070

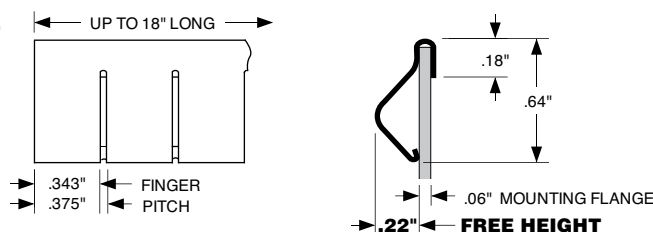
SOFT NO-SNAG FINGERS

Compression Force

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	25% Compression (0.165")	50% Compression (0.110")
Standard .0035" Thk.	18 lbs/ft	36 lbs/ft

Note: See page 4 for available lances.



Contact Rings



Now Available in High Volume

Contact rings can be fabricated from most of the finger stock profiles found in the following Special Mounting section. These rings can be formed in any diameter containing an integral number of fingers, down to the minimum diameter to which that particular strip can be curled.

Rings are offered for both inside (female) or outside (male) plug applications. The following icons show which profiles in the Special Mounting section are available in female and male contact ring configurations.



Visit the web site for complete specifications: www.tech-etch.com/shield/contactrings.html

- Fabricated from beryllium copper finger stock
- Can be formed to any diameter containing an integral number of fingers
- Wide range of in-house plating options
- Excellent durability
- Superior attenuation
- Ideal for microwave cavities, tuning, shielding and grounding applications

See page 6 for how to order contact rings

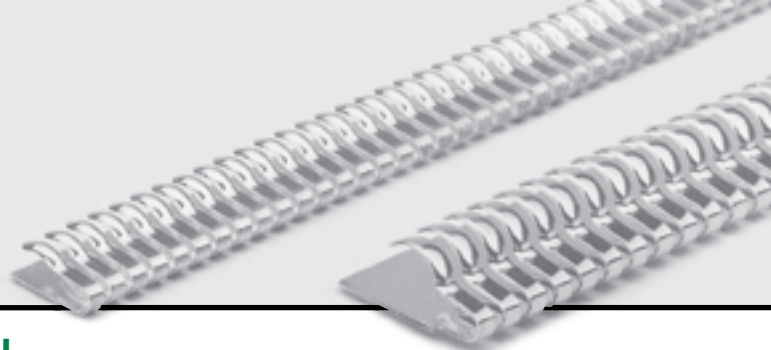


Special Mounting



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60RC REVERSE BEND SPHERICAL

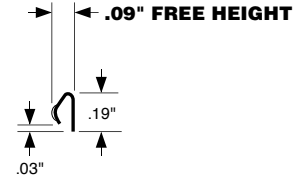
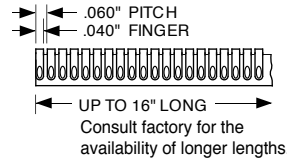
Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .004" Thk.	7.0 lbs/ft	10 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



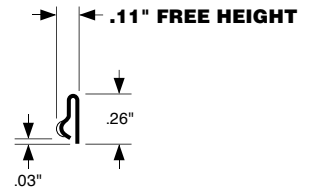
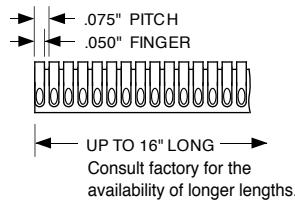
75RC REVERSE BEND SPHERICAL

Standard .006" Thk.

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Available
as Male
Contact Rings

Available
as Female
Contact Rings



93R1D REVERSE BEND SPHERICAL

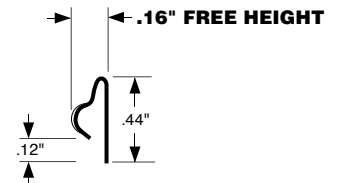
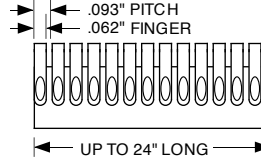
Compression Force

	25% Compression (0.120")	50% Compression (0.080")
Standard .010" Thk.	15 lbs/ft	47 lbs/ft

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Available
as Male
Contact Rings

Available
as Female
Contact Rings



60D REVERSE BEND CONTACTS

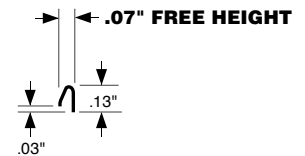
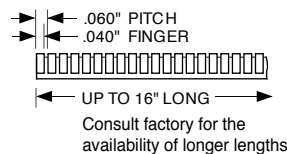
Compression Force

	25% Compression (0.053")	50% Compression (0.035")
Standard .004" Thk.	18 lbs/ft	41 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



127A REVERSE BEND CONTACTS

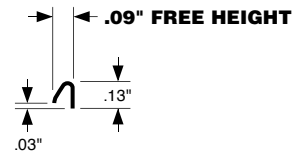
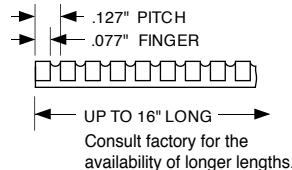
Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .005" Thk.	18 lbs/ft	49 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



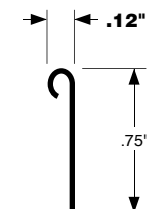
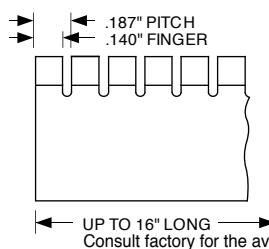
187RD2 REVERSE BEND CONTACTS

Standard .005" Thk.

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings

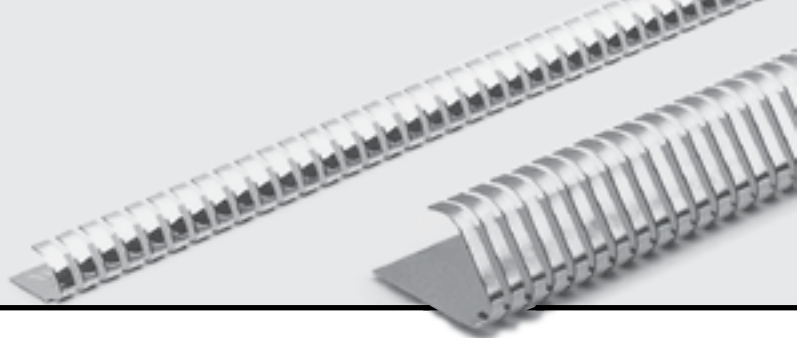


Special Mounting



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- SEE PAGE 7 FOR SAMPLE REQUEST



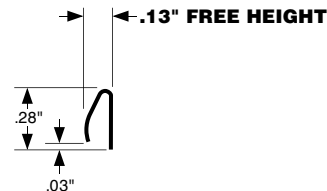
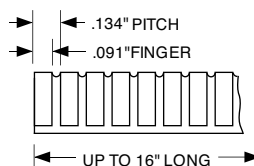
134B REVERSE BEND CONTACTS

Compression Force

[Download Sales Drawing](#)

	25% Compression (0.098")	50% Compression (0.065")
Standard .010" Thk.	4.0 lbs/ft	96 lbs/ft
"TF" Style .005" Thk.	-	-

Note: Also available in .090 Pitch (90B).

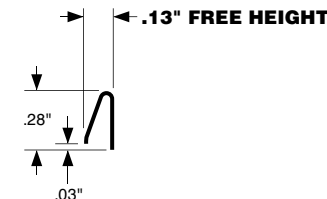
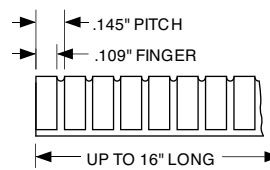
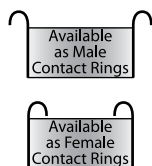


145A REVERSE BEND CONTACTS

Compression Force

[Download Sales Drawing](#)

	25% Compression (0.098")	50% Compression (0.065")
Standard .010" Thk.	20 lbs/ft	61 lbs/ft



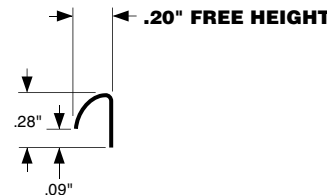
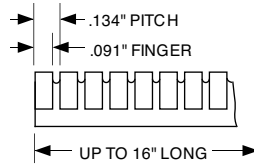
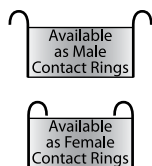
Consult factory for the availability of longer lengths.

134C REVERSE BEND CONTACTS

Compression Force

[Download Sales Drawing](#)

	25% Compression (0.150")	50% Compression (0.100")
Standard .010" Thk.	18 lbs/ft	160 lbs/ft
"TF" Style .005" Thk.	7.0 lbs/ft	27 lbs/ft

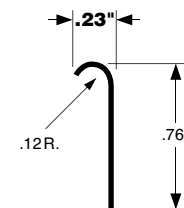
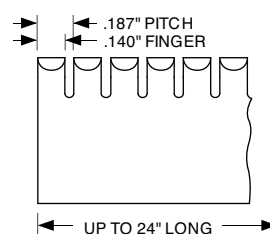


Consult factory for the availability of longer lengths.

187RD REVERSE BEND CONTACTS

Standard .005" Thk.

[Download Sales Drawing](#)



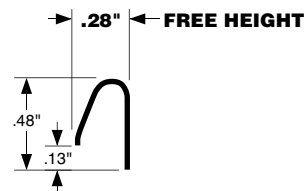
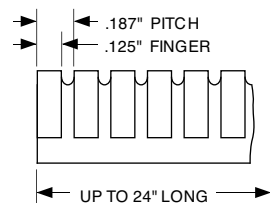
UP TO 24" LONG

187H REVERSE BEND CONTACTS

Compression Force

[Download Sales Drawing](#)

	25% Compression (0.210")	50% Compression (0.140")
Standard .006" Thk.	5.0 lbs/ft	15 lbs/ft



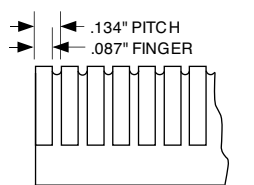
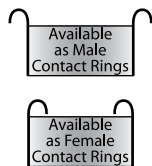
UP TO 24" LONG

134D REVERSE BEND CONTACTS

Compression Force

[Download Sales Drawing](#)

	25% Compression (0.330")	50% Compression (0.220")
Standard .010" Thk.	16 lbs/ft	46 lbs/ft



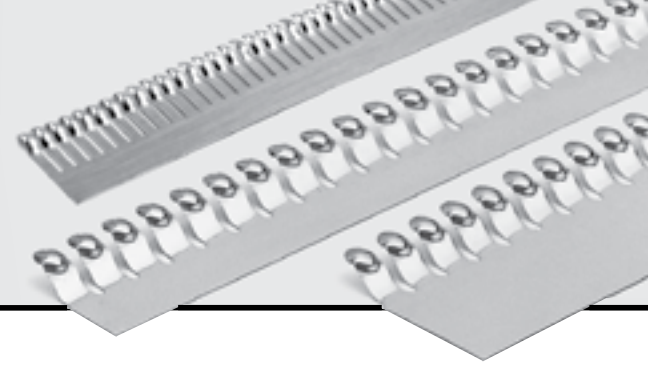
UP TO 16" LONG
Consult factory for the availability of longer lengths.

Special Mounting



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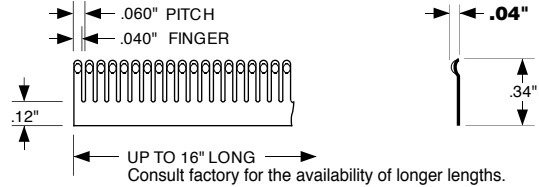


60R

SPHERICAL RADIUS

[Download Sales Drawing](#)

Standard .004" Thk.

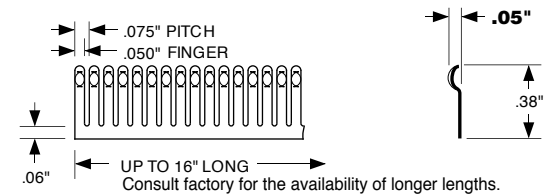


75RF

SPHERICAL RADIUS

[Download Sales Drawing](#)

Standard .006" Thk.

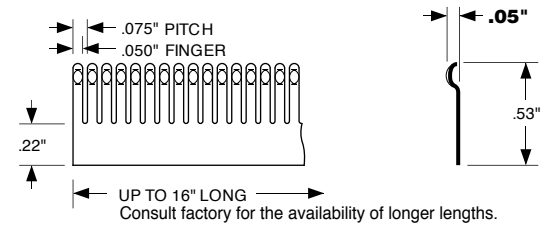


75RE

SPHERICAL RADIUS

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Standard .006" Thk.



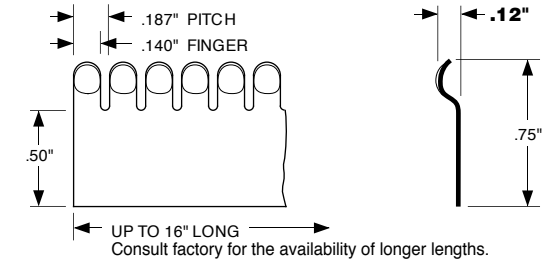
187RB1

SPHERICAL RADIUS

[Download Sales Drawing](#)

Standard .005" Thk.

Note: Consult factory for wider widths.



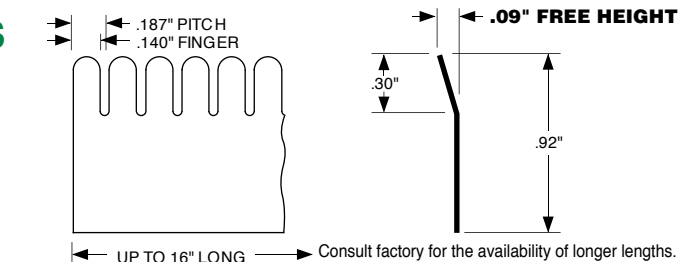
187RB

CYLINDRICAL RADIUS

[Download Sales Drawing](#)

Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .005" Thk.	3.0 lbs/ft	6.0 lbs/ft



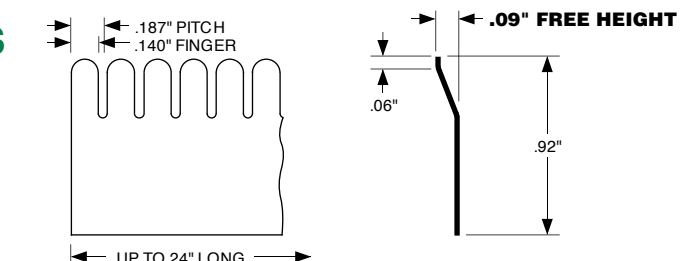
187RC

CYLINDRICAL RADIUS

[Download Sales Drawing](#)

Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .005" Thk.	1.8 lbs/ft	6.1 lbs/ft



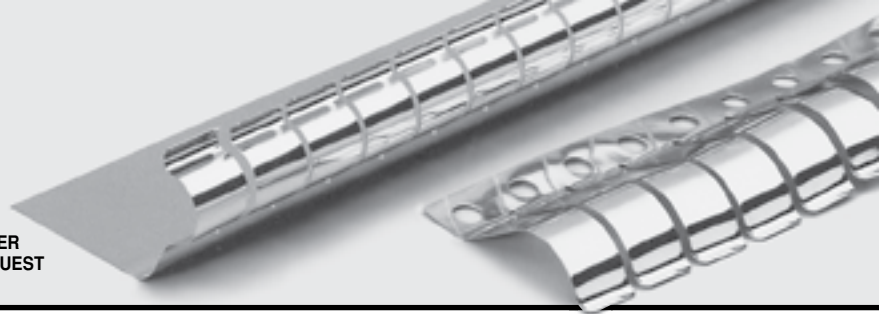
Special Mounting

Interactive



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- SEE PAGE 7 FOR SAMPLE REQUEST



187RJ

CYLINDRICAL RADIUS

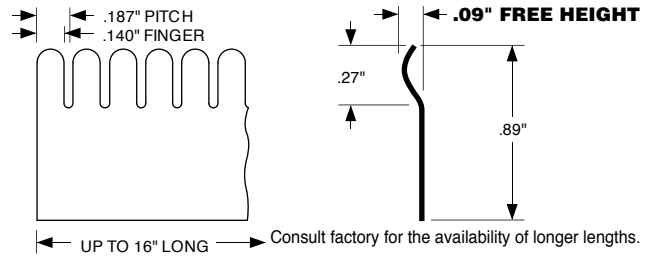
Compression Force

	25% Compression (0.068")	50% Compression (0.045")
Standard .005" Thk.	4.2 lbs/ft	11 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



187RA

CYLINDRICAL RADIUS

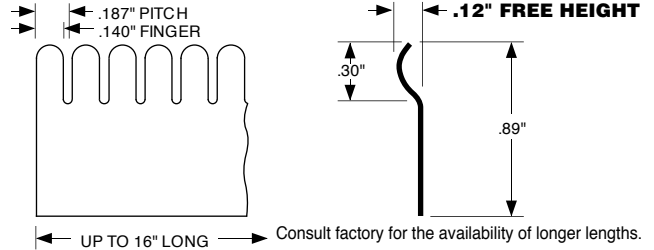
Compression Force

	25% Compression (0.090")	50% Compression (0.060")
Standard .005" Thk.	8.0 lbs/ft	37 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



187R₂A

CYLINDRICAL RADIUS

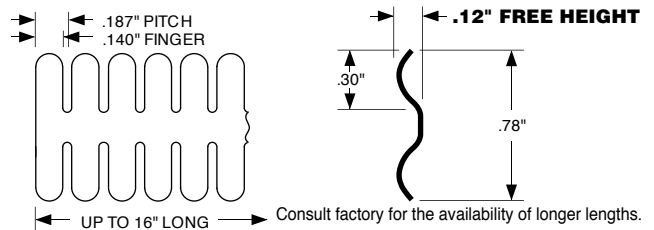
Compression Force

	25% Compression (0.090")	50% Compression (0.060")
Standard .005" Thk.	17 lbs/ft	73 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



375B

CYLINDRICAL RADIUS

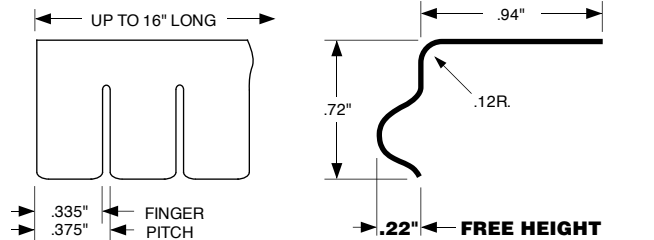
Compression Force

	25% Compression (0.165")	50% Compression (0.110")
Standard .004" Thk.	18 lbs/ft	48 lbs/ft

[Download Sales Drawing](#)

Available
as Male
Contact Rings

Available
as Female
Contact Rings



375A

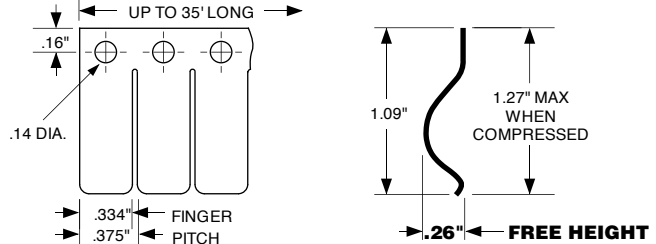
STRIP GASKETS

Compression Force

	25% Compression (0.195")	50% Compression (0.130")
Standard .005" Thk.	15 lbs/ft	41 lbs/ft

[Download Sales Drawing](#)

Note: Drawing shown at reduced scale.



500A

STRIP GASKETS

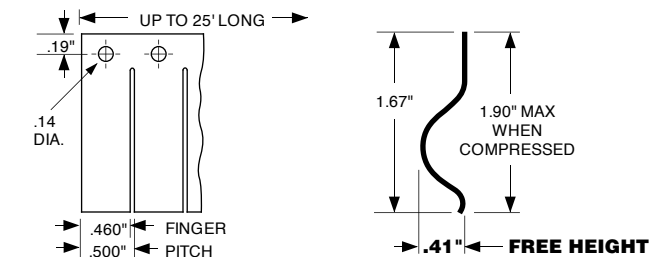
Compression Force

	25% Compression (0.308")	50% Compression (0.205")
Standard .007" Thk.	16 lbs/ft	32 lbs/ft

[Download Sales Drawing](#)

Note: Drawing shown at reduced scale.

(SS) Also available in Stainless Steel (SS500A)

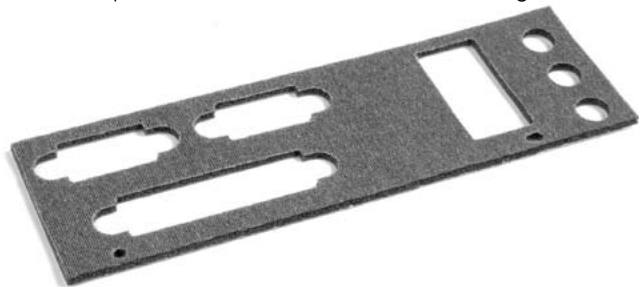


Conductive Foam Gaskets

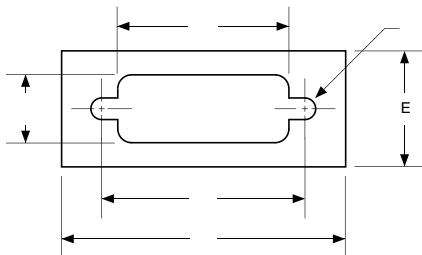
X, Y & Z Axis Conductivity Ensures Maximum Shielding Attenuation

2700 Series Conductive Foam is an X, Y, Z axis conductive foam that consists of conductive open cell polyurethane foam, with a nickel over copper plated polyester fabric on either side. The fabric is woven on one side and non-woven on the other. RoHS compliant 2700 Series Conductive Foam is available with or without pressure-sensitive conductive adhesive on one side.

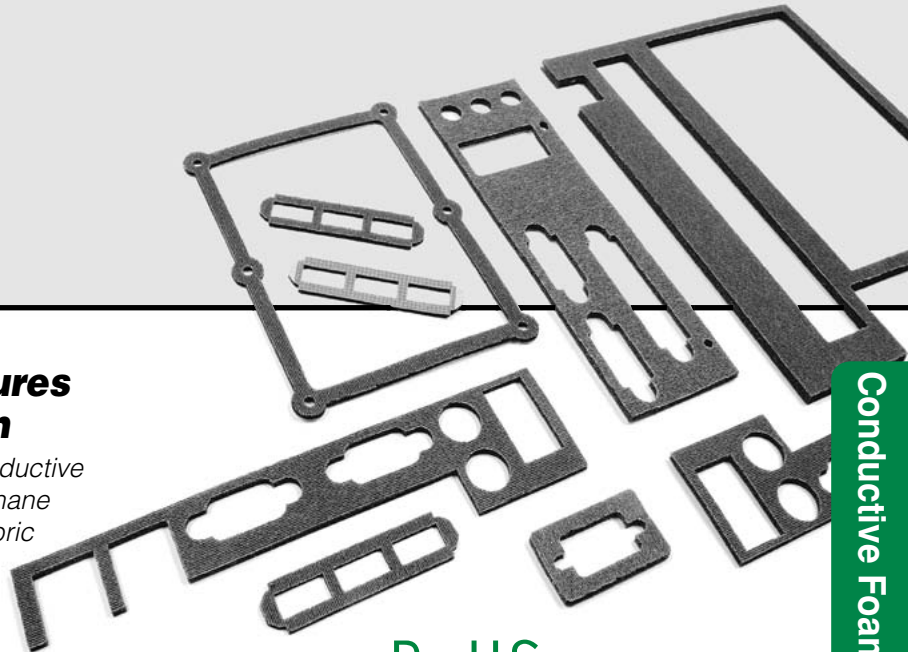
- Available in standard gasket configurations, custom designs and sheet stock
- Nickel / copper plated polyester fabric on both sides of conductive open cell polyurethane foam
- Ideal for applications requiring a conformable gasket with excellent conductivity at low compression force
- Durable woven fabric on mounting side, compliant non-woven fabric on contact side
- Standard thickness: .040", .059", .087", and .134" support up to 50% compression deflection
- UL 94 V-Rated and RoHS compliant
- Low compression set for longer life
- Ideal for computer, router and telecom I/O shielding



Standard D-Connector Gaskets



No. Pins	A	B	C	D	E	F	Seq. Part No.
9	1.313	.98	.78	.44	.750	.07 R.	3009
15	1.641	1.31	1.11	.44	.750	.07 R.	3015
25	2.188	1.85	1.65	.44	.750	.07 R.	3025
37	2.829	2.50	2.29	.44	.750	.07 R.	3037
50	2.740	2.41	2.11	.55	.880	.07 R.	3050



RoHS
COMPLIANT

Specifications

Foam: Conductive Open-Celled Polyurethane Foam
Service Temperature: -40°F to 158°F (-40°C to 70°C)
Compression Deflection: 2-3 psi @ 50% compression
Flammability Rating: UL 94 V-Rated
RoHS Compliant: Yes
Surface Resistivity: .03 - .05 Ohm/sq
Volume Resistivity: 3.5 m Ohms
Tensile: 6-15 kg/in
Shielding Effectiveness: dB @ 10 MHz 103 - 105
 dB @ 100 MHz 98 - 132
 dB @ 1 GHz 100 - 138

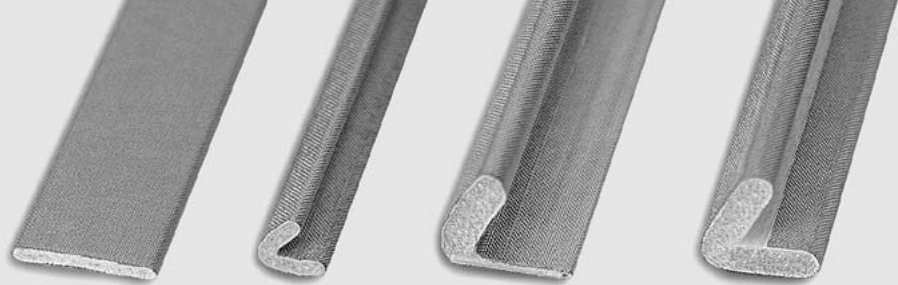
How To Order

2700 Series - Conductive Foam

Example: Part number 2730-1011-0211 is Conductive Foam, with pressure sensitive adhesive, in a custom configuration. The sequential number is assigned by the factory unless standard gasket.

2700 SERIES	27	XX	-Y	01	A	-	XXXX	-	MAT'L THICK
							SEQUENTIAL (XXXX)		
							ADHESIVE (A) 0 No Adhesive 1 Pressure Sensitive		
							RATING (01) 01 UL 94 V-Rated		
							FINISH (Y) 1 Nickel Over Copper		
							CONFIGURATION (XX) 10 Material Only (Std. Sheet 21.75" x 12") 30 Fabricated Part (Custom) 40 Standard Die Cut (See page 36 for other sizes / seq #)		
									059 = .059" For 2740 Standard Connector Gaskets Only. (Standard available thicknesses: .059", .087", .040", and .134")

Metalized Fabric Gaskets



2400 Series - Standard Metalized Fabric Gaskets

Tech-Etch metalized fabric over polyurethane foam core gaskets are setting a new standard for shielding control. Nickel-plating over a highly conductive copper plated substrate provides the excellent electrical characteristics necessary for high attenuation shielding. Bonding the conductive substrate to the foam core assures self-termination of gaskets cut to length, while providing superior flexibility. RoHS compliance ensures that these gaskets are environmentally friendly.

Mounting

Stick-on Mounting uses double-sided pressure sensitive transfer tape for a fast, reliable installation (3M F9495LE non-conductive adhesive or equivalent). Apply only on a clean, oil-free surface and allow a 24-hour cure time.

Standard Profiles

Tech-Etch offers a wide range of standard profiles. If necessary, we can produce custom profiles to your specifications.

Quick Quote Request Form for Metalized Fabric Gaskets at:

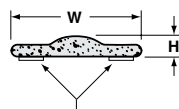
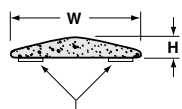
www.tech-etch.com/shield/quickquote.html

Request a fast quote for Metalized Fabric Gaskets. Requests for standard product will be answered within 24 hours.

Domed Shapes

Fig. A

Fig. B

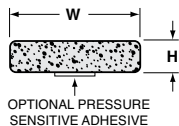


OPTIONAL PRESSURE SENSITIVE ADHESIVE

OPTIONAL PRESSURE SENSITIVE ADHESIVE

H. (in.)	W. (in.)	Part Number	Fig.
.080	.450	2471 - 101A - 0194	B
.080	.450	2471 - 101A - 0202	A
.080	.500	2471 - 101A - 0174	B
.080	.500	2471 - 101A - 0205	A
.080	.675	2471 - 101A - 0175	B
.100	.394	2471 - 101A - 0207	A
.120	.600	2471 - 101A - 0195	B

Rectangular



OPTIONAL PRESSURE SENSITIVE ADHESIVE

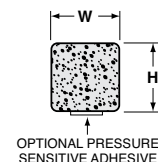
H. (in.)	W. (in.)	Part Number
.040	.120	2411 - 101A - 0100
.040	.157	2411 - 101A - 0101
.040	.200	2411 - 101A - 0102
.040	.275	2411 - 101A - 0141
.040	.395	2411 - 101A - 0103
.040	.500	2411 - 101A - 0204
.040	.710	2411 - 101A - 0187
.062	.170	2411 - 101A - 0165
.062	.200	2411 - 101A - 0105
.062	.300	2411 - 101A - 0142
.062	.395	2411 - 101A - 0231
.062	.500	2411 - 101A - 0104
.080	.120	2411 - 101A - 0235
.080	.160	2411 - 101A - 0143
.080	.275	2411 - 101A - 0106
.080	.400	2411 - 101A - 0107
.091	.100	2411 - 101A - 0227
.100	.080	2411 - 101A - 0177
.100	.375	2411 - 101A - 0206
.118	.157	2411 - 101A - 0178
.120	.150	2411 - 101A - 0144
.125	.250	2411 - 101A - 0108
.125	.500	2411 - 101A - 0109
.125	.700	2411 - 101A - 0145
.125	.750	2411 - 101A - 0208
.130	.190	2411 - 101A - 0110
.130	.380	2411 - 101A - 0146
.150	.375	2411 - 101A - 0147
.150	.500	2411 - 101A - 0193
.157	.315	2411 - 101A - 0148
.160	.200	2411 - 101A - 0167
.195	.315	2411 - 101A - 0181
.195	.500	2411 - 101A - 0198
.200	.750	2411 - 101A - 0223
.250	.300	2411 - 101A - 0230
.250	.375	2411 - 101A - 0111
.250	.500	2411 - 101A - 0112
.250	.750	2411 - 101A - 0149
.375	.500	2411 - 101A - 0113
.375	1.000	2411 - 101A - 0191

RoHS COMPLIANT



Click on any Part Number to download its interactive sales drawing.

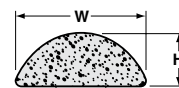
Square



OPTIONAL PRESSURE SENSITIVE ADHESIVE

H. (in.)	W. (in.)	Part Number
.093	.093	2421 - 101A - 0199
.118	.118	2421 - 101A - 0114
.157	.157	2421 - 101A - 0168
.195	.195	2421 - 101A - 0115
.236	.236	2421 - 101A - 0116
.250	.250	2421 - 101A - 0117
.375	.375	2421 - 101A - 0118
.395	.395	2421 - 101A - 0119
.500	.500	2421 - 101A - 0120

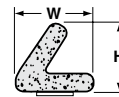
D



OPTIONAL PRESSURE SENSITIVE ADHESIVE

H. (in.)	W. (in.)	Part Number
.060	.150	2431 - 101A - 0122
.060	.250	2431 - 101A - 0229
.070	.180	2431 - 101A - 0214
.090	.090	2431 - 101A - 0123
.090	.150	2431 - 101A - 0150
.100	.300	2431 - 101A - 0224
.120	.150	2431 - 101A - 0124
.125	.090	2431 - 101A - 0151
.125	.250	2431 - 101A - 0125
.140	.250	2431 - 101A - 0126
.140	.375	2431 - 101A - 0163
.150	.150	2431 - 101A - 0152
.157	.315	2431 - 101A - 0220
.158	.433	2431 - 101A - 0186
.196	.315	2431 - 101A - 0153
.200	.190	2431 - 101A - 0154
.250	.250	2431 - 101A - 0127
.250	.375	2431 - 101A - 0128
.375	.500	2431 - 101A - 0155
.500	.500	2431 - 101A - 0226

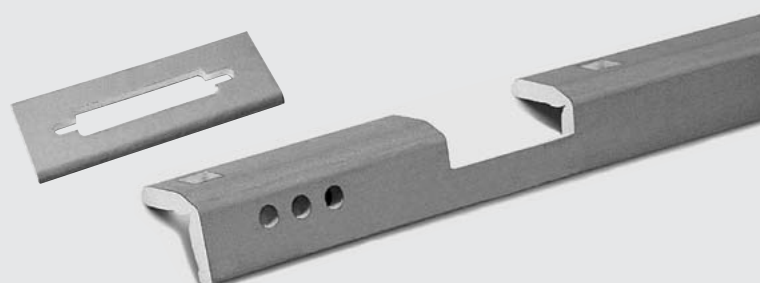
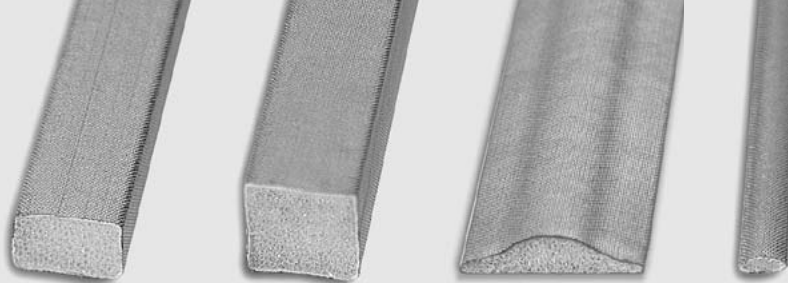
C-Fold



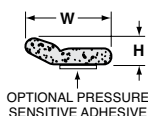
OPTIONAL PRESSURE SENSITIVE ADHESIVE

* Rigid Insert

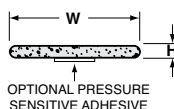
H. (in.)	W. (in.)	Part Number
.250	.250	2441 - 101A - 0137
.385	.420	2441 - 101A - 0138*
.395	.430	2441 - 101A - 0139
.675	.590	2441 - 101A - 0140



Knife Edge



Flat



H. (in.)	W. (in.)	Part Number
.088	.455	2451 - 101A - 0196
.106	.445	2451 - 101A - 0156
.250	.750	2451 - 101A - 0157

H. (in.)	W. (in.)	Part Number
.040	1.000	2461 - 101A - 0158
.040	1.650	2461 - 101A - 0169
.060	0.750	2461 - 101A - 0159
.060	1.000	2461 - 101A - 0160
.060	1.440	2461 - 101A - 0179
.080	0.830	2461 - 101A - 0161
.080	1.142	2461 - 101A - 0170
.100	1.200	2461 - 101A - 0171
.100	1.500	2461 - 101A - 0172
.118	2.165	2461 - 101A - 0189*
.120	1.440	2461 - 101A - 0173
.125	1.615	2461 - 101A - 0162

RoHS
COMPLIANT

*Note: Part 2461 - 101A - 0189 has two optional pressure sensitive adhesives like Domed shapes on page 30.

Specifications

Tolerances: Height and Width: ± 0.020 in. $\leq .100$, ± 0.030 in. $> .100$
Foam Core: Open-Cell Polyurethane Foam
Metalized Fabric: Nickel Plating Over Copper Substrate
Service Temperature: -40°F to 194°F (-40°C to 90°C)
Compression Set: (ASTM D3574) 2.6%
Compression Deflection: (ASTM D3574) 1.47 psi
Flammability Rating: UL 94 V-Rated
Surface Resistivity: (ASTM F390) $< .02$ Ohms

How To Order

2400 Series - Metalized Fabric - Foam Core

Example: Part number 2411-1011-0108-8.75 is a metalized (nickel over copper plated) fabric over foam, cut to 8.75", with pressure sensitive tape, configured as a rectangular profile of .125" x .250". **Unless an existing standard size, the sequential number is assigned by the factory.**

2 4	X	1	-	Y	01	A	-	X X X X	-	L L . L L
2400 SERIES								SEQUENTIAL (XXXX)		LENGTH (L L . L L")
								ADHESIVE (A)		Length of Cut Gasket
								0 No Adhesive		
								1 Pressure Sensitive		
								RATING		
								01 UL 94 V-Rated		
								FINISH (Y)		
								1 Nickel Over Copper		
								9 Other		
								CONDITION (C)		
								1* Cut To Length		
								Maximum Length (84.00 Inches)		
								*Length in inches to be specified following the sequential number.		
								CONFIGURATION (X)		
								1 Rectangular		
								2 Square		
								3 D		
								4 C-Fold		
								5 Knife Edge		
								6 Flat		
								7 Domed Shape		
								9 Other		

2600 Series - Die Cut Metalized Fabric Gaskets

Custom designed gaskets using 2600 Series metalized fabric wrapped around a polyurethane foam core are fabricated using low cost rule-dies. The conductive fabric is bonded to the core assuring self-termination on all exposed edges. RoHS compliance ensures that the gaskets are environmentally friendly.



RoHS
COMPLIANT

Rule die gaskets using metalized fabric with or without elastomer core can be designed and manufactured to suit your exact requirements. When designing a custom gasket, consider the following:

- Dimensional tolerances are influenced by the softness of the material.
- Minimum distance between any cutouts to the edge should be equal to the material thickness.
- Minimum hole diameters should be equal to the material thickness.

How To Order

2600 Series - Metalized Fabric - Foam Core

Example: Part number 2630-1011-0211 is a metalized (nickel over copper plated) fabric over foam, with pressure sensitive adhesive, in a custom configuration. **Unless an existing standard size, the sequential number is assigned by the factory.**

2 6	X X	-	Y	0	C	A	-	X X X X	-	MAT'L THICK
2600 SERIES								SEQUENTIAL (XXXX)		040 = .040"
								ADHESIVE (A)		For 2640 Standard D Connectors Only.
								0 No Adhesive		(Standard thicknesses available to .250".
								1 Pressure Sensitive		See page 36 for Standard D Connector gaskets.)
								CORE (C)		
								0 No Core		
								1 Foam Core		
								RATING		
								0 UL 94 V-Rated		
								FINISH (Y)		
								1 Nickel Over Copper		
								9 Other		
								CONFIGURATION (XX)		
								30 Fabricated Part (Custom)		
								40 Standard Die Cut (See page 36)		

Mesh Gaskets



Tech-Etch manufactures knitted wire mesh, which can be used as economical gaskets for EMI shielding. All knitted mesh configurations are supplied on spools, coils or cut to length as individual gaskets with or without end seals. Standard profiles for a wide variety of applications are round, round with tail, double round with tail, half round (D) and rectangular.

Most profiles are available as all mesh and all are available with an elastomer core to enhance compression characteristics and increase the deflection range. Standard wire materials are monel, TCS (tin plated copper clad steel), stainless steel and aluminum. Consult the factory for other materials. Wire selection should take into account attenuation potential, mechanical characteristics, and corrosion resistance.

Conductive Materials

RoHS
COMPLIANT

Monel

The most commonly used for good conductivity, corrosion resistance and good mechanical characteristics. Not recommended for applications contacting aluminum in harsh environments.

Monel Wire Per QQ-N-281
Class A, 0.0045 in. dia.

TCS

Tin plated copper clad steel has similar characteristics to Monel, with improved shielding at lower frequencies but slightly lower corrosion resistance.

TCS Wire ASTM-B-520
0.0045 in. dia.

Aluminum

Aluminum wire is normally used only when galvanic compatibility with aluminum housing is required.

Aluminum Wire AMS 4182
Alloy 5056, 0.005 in. dia.

Stainless Steel

Stainless Steel is used typically when heat and corrosion resistance is required and high attenuation is not needed.

S/S Wire AMS 5697
Type 304, .0045 in. dia.

Core Materials **RoHS** COMPLIANT

Core material comes standard with neoprene sponge. Neoprene solid, silicone (sponge and solid), and polyurethane foam are also available. Core materials should be selected for temperature, chemical resistance and mechanical characteristics.

See product sections for hollow elastomer core availability.

Neoprene

Neoprene rubber is an economical, general-purpose elastomer with good compression characteristics. It is available in solid and sponge and in hollow core cross sections.

Sponge ASTM D6576 Type II
Grade A (Formerly MIL-R 6130)
Temperature Range: -31° to 100° C
Condition: Medium

Solid MIL-R 6855 Class II, Grade 40
Temperature Range: -40° to 100° C

Silicone

Silicone rubber is noted for its retention of flexibility, resilience and tensile strength over a wide temperature range. Silicone is generally more resistant to cleaning solvents than neoprene.

Sponge AMS-3195
Temperature Range: -75° to 205° C
Condition: Medium

Solid A-A 59588 Class II
Grade 40 (Formerly ZZ-R-765)
Temperature Range: -60° to 219° C

Polyurethane Foam

Polyurethane Foam should be specified for light compression force applications. This material has good compression set characteristics and is available in rectangular and square solid cross sections.

Temperature Range: -40° to 121° C

End Seal Material

RoHS
COMPLIANT

Cut to length gaskets are available with sealed ends to capture loose particles produced when the gaskets are cut.

End Seal 3M 1357 Adhesive
Dow Corning 3145RTV

Shielding Performance

Maximum attenuation for all gaskets is achieved as compression force increases. Care must be taken with mesh gaskets to avoid compression set, which will occur when the gasket is compressed beyond 25% of the free height. The use of elastomer cores will extend the operating range. In applications where the gasket is permanently installed between two surfaces, compression set can be tolerated.

EMI Shielding Performance

Material	H-Field 100kHz	E-Field 10MHz	P-Field 1GHz
BeCu	>110 dB	>110 dB	<110 dB
Monel	60 dB	>115 dB	95 dB
T.C.S.	80 dB	125 dB	100 dB
Aluminum	38 dB	100 dB	80 dB

Materials Key

WIRE MESH MATERIALS KEY	
KNITTED WIRE MESH	
ELASTOMER	
ALUMINUM EXTRUSION	

Mounting Methods

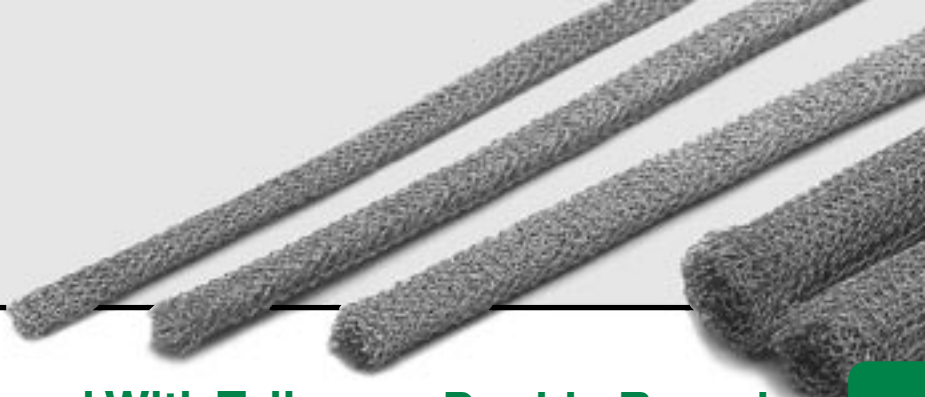
Groove Mounting

Die-castings can be designed for groove mounting to provide good retention and to control the amount of compression.

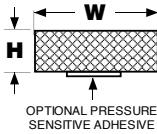
Stick-On Mounting

All profiles except round can be mounted with double-sided pressure sensitive transfer tape for a fast, reliable installation. 3M F9469PC transfer tape may be used at ambient temperatures from -67°F to 300°F. Apply on clean, oil free surface, and allow a 24-hour cure time for maximum adhesion.

2000 Series Wire Mesh Mesh Core



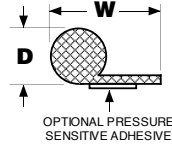
Rectangular



H (in.)	W (in.)	Part Number
.062	.062	201T - YY0A - 0001
.062	.125	201T - YY0A - 0005
.062	.156	201T - YY0A - 0018
.062	.188	201T - YY0A - 0011
.062	.250	201T - YY0A - 0016
.093	.093	201T - YY0A - 0002
.093	.125	201T - YY0A - 0006
.093	.188	201T - YY0A - 0012
.093	.250	201T - YY0A - 0003
.125	.125	201T - YY0A - 0007
.125	.188	201T - YY0A - 0009
.125	.375	201T - YY0A - 0004
.125	.250	201T - YY0A - 0010
.125	.500	201T - YY0A - 0013
.156	.125	201T - YY0A - 0008
.188	.188	201T - YY0A - 0014
.188	.250	201T - YY0A - 0017
.188	.500	201T - YY0A - 0038
.250	.250	201T - YY0A - 0015
.375	.375	201T - YY0A - 0021
.500	.500	201T - YY0A - 0024

Tolerances: Height and Width
±0.031 in.

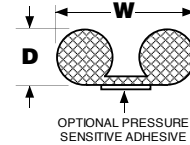
Round With Tail



D (in.)	W (in.)	Part Number
.062	.375	203T - YY0A - 0040
.062	.500	203T - YY0A - 0041
.062	.625	203T - YY0A - 0042
.093	.500	203T - YY0A - 0043
.125	.375	203T - YY0A - 0044
.125	.500	203T - YY0A - 0045
.125	.625	203T - YY0A - 0046
.125	.750	203T - YY0A - 0047
.188	.500	203T - YY0A - 0048
.188	.625	203T - YY0A - 0049
.188	.750	203T - YY0A - 0050
.250	.500	203T - YY0A - 0051
.250	.625	203T - YY0A - 0052
.250	.750	203T - YY0A - 0053
.250	1.000	203T - YY0A - 0054

Tolerances: Diameter ±0.031 in.
Width ±0.031 in.

Double Round With Tail



D (in.)	W (in.)	Part Number
.062	.375	204T - YY0A - 0055
.062	.500	204T - YY0A - 0056
.062	.625	204T - YY0A - 0057
.093	.500	204T - YY0A - 0058
.125	.375	204T - YY0A - 0059
.125	.500	204T - YY0A - 0060
.125	.625	204T - YY0A - 0061
.125	.750	204T - YY0A - 0068
.188	.625	204T - YY0A - 0062
.188	.750	204T - YY0A - 0063
.188	1.000	204T - YY0A - 0064
.250	.625	204T - YY0A - 0065
.250	.750	204T - YY0A - 0066
.250	1.000	204T - YY0A - 0067

Tolerances: Diameter ±0.031 in.
Width ±0.031 in.

Round



D (in.)	Part Number
.062	202T - YY00 - 0026
.093	202T - YY00 - 0027
.125	202T - YY00 - 0028
.156	202T - YY00 - 0029
.188	202T - YY00 - 0030
.250	202T - YY00 - 0031
.313	202T - YY00 - 0032
.375	202T - YY00 - 0033
.500	202T - YY00 - 0034
.563	202T - YY00 - 0035
.625	202T - YY00 - 0036
.750	202T - YY00 - 0037
1.000	202T - YY00 - 0038

Tolerance: Diameter ±0.031 in.

How To Order

2000 Series - Knitted Wire Mesh-Mesh Core

Example: Part number 2032-2000-0045-8.75 is monel wire, cut to 8.75" with no end seal, no adhesive, round with tail configuration, and .125" diameter x .500" wide. **Unless standard, the sequential number is assigned by the factory.**

2 0 X T - Y Y 0 A - X X X X - L L L L

**2000
SERIES**

**SEQUENTIAL
(XXXX)**

**LENGTH
(LL.LL")**

ADHESIVE (A)

0 No Adhesive
1 Pressure Sensitive

MESH CORE (0)

WIRE (YY)

10 TCS 30 Aluminum
20 Monel 40 Stainless Steel
50 Other

CONDITION (T)

0 Continuous in Roll 3** Joined Ring Cut To Length
1* Cut To Length With End Seal 5 Other
2* Cut To Length Without End Seal

*Length in inches to be specified following the sequential number

**Circumference in inches to be specified following the sequential number

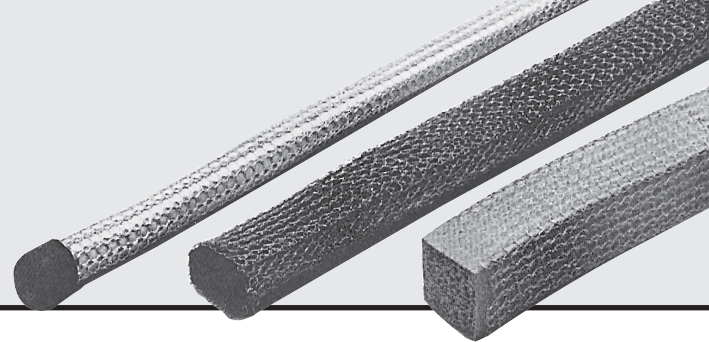
CONFIGURATION (X)

1 Rectangular 3 Round W/Tail
2 Round 4 Double Round W/Tail

For material specifications and performance data see page 32.

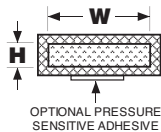
FOR SIZES NOT SHOWN, PLEASE ASK!

2000 Series Wire Mesh Elastomer Core



NOTE: Standard cross-sectional dimensions given are those of the elastomer and due allowance must be made for mesh thickness.

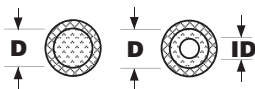
Rectangular



H (in.)	W (in.)	Part Number
.062	.250	2X1T - YNZA - 0016
.093	.125	2X1T - YNZA - 0006
.125	.125	2X1T - YNZA - 0007
.125	.156	2X1T - YNZA - 0008
.125	.188	2X1T - YNZA - 0009
.125	.250	2X1T - YNZA - 0010
.188	.188	2X1T - YNZA - 0013
.188	.250	2X1T - YNZA - 0005
.250	.250	2X1T - YNZA - 0018
.250	.500	2X1T - YNZA - 0020
.375	.250	2X1T - YNZA - 0019
.375	.500	2X1T - YNZA - 0022
.375	.625	2X1T - YNZA - 0023
.500	.500	2X1T - YNZA - 0024
.750	.500	2X1T - YNZA - 0025

Tolerances for Elastomer: Up to .0375, ± 0.031 in.; over 0.375 to 0.750, ± 0.062 in.

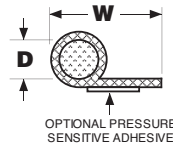
Round



D (Core) (in.)	ID (Tube) (in.)	Part Number
.062	.032	2X2T - YNZO - 0026
.093		2X2T - YNZO - 0027
.125	.062	2X2T - YNZO - 0028
.156		2X2T - YNZO - 0029
.188	.125	2X2T - YNZO - 0030
.250	.170	2X2T - YNZO - 0031
.312	.188	2X2T - YNZO - 0032
.375	.250	2X2T - YNZO - 0033
.500	.375	2X2T - YNZO - 0035
.625	.437	2X2T - YNZO - 0036
.750		2X2T - YNZO - 0037

Tolerances for Elastomer: Up to 0.500 dia., ± 0.031 in.; over 0.500 dia., ± 0.047 in.

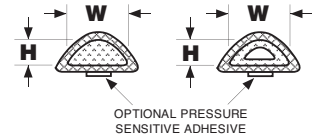
Round With Tail



D (Core) (in.)	W (O/A) (in.)	Part Number
.125	.500	2X3T - YNZA - 0045
.125	.625	2X3T - YNZA - 0046
.125	.750	2X3T - YNZA - 0047
.188	.500	2X3T - YNZA - 0048
.188	.750	2X3T - YNZA - 0050
.188	1.250	2X3T - YNZA - 0055
.250	.500	2X3T - YNZA - 0051
.250	.625	2X3T - YNZA - 0052
.250	.750	2X3T - YNZA - 0053
.250	1.000	2X3T - YNZA - 0054

Tolerances for Width: Up to 1.00 in., ± 0.062 in.; over 1.00 in., ± 0.12 in.

D



H (Core) (in.)	W (Core) (in.)	Part Number
.188	.250	2X6T - YNZA - 0010
.250	.375	2X6T - YNZA - 0020
.375	.500	2X6T - YNZA - 0030

Tolerances for Elastomer ± 0.031 in.

Note: Round With Tail also available as **Double Round With Tail** for Wire Mesh with elastomer core. Order as 2040-YNZA-XXXX. For Width (W) and Depth (D), use sequential numbers from Mesh Core Double Round With Tail on page 33.

How To Order

2000 Series - Wire Mesh Elastomer Core

Example: Part number 2020-2060-0028 is a continuous roll of 0.125" diameter silicone tubing covered with two layers of monel mesh with no adhesive. **Unless standard, the sequential number is assigned by the factory.**

2000 SERIES - **ADHESIVE (A)** - **ELASTOMER CORE (Z)** - **NUMBER OF COVERS (N)** - **WIRE (Y)** - **CONDITION (T)** - **CONFIGURATION (X)** - **LENGTH (LL.LL")**

ADHESIVE (A)
0 No Adhesive
1 Pressure Sensitive

ELASTOMER CORE (Z)
1 Neoprene Sponge (most common)
2 Neoprene Solid
3 Neoprene Hollow
4 Silicone Sponge
5 Silicone Solid
6 Silicone Hollow
8 Polyurethane Foam

NUMBER OF COVERS (N)
1 One 3 Three 5 Other
0 Two¹ 4 Four

WIRE (Y)
1 TCS 4 Stainless Steel
2 Monel 5 Other
3 Aluminum

CONDITION (T)
0 Continuous Roll 3** Joined Ring Cut To Length
1* Cut To Length With End Seal 5 Other
2* Cut To Length Without End Seal

*Length in inches to be specified following the sequential number

**Circumference in inches to be specified following the sequential number

CONFIGURATION (X)
1 Rectangular 3 Round W/Tail 6 D Shape
2 Round 4 Double Round W/Tail

¹Standard Wire Mesh, Also Includes Single Cover With Double-Density

For material specifications and performance data see page 32.

FOR SIZES NOT SHOWN, PLEASE ASK!

3000 Series Twinseal

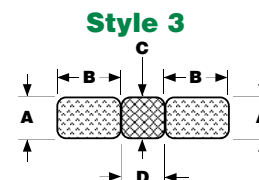
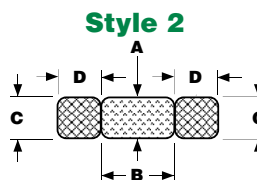
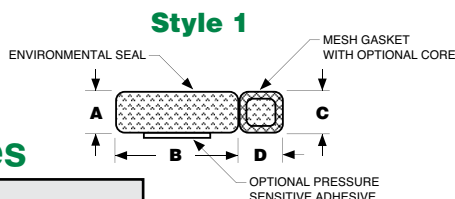


Twinseal gaskets provide an efficient environmental seal in addition to the shielding from the attached mesh gasket. The mesh gasket is typically supplied in a rectangular profile and is available in all the standard materials and configurations found on page 32. The environmental seal is available in either neoprene or silicone and can be produced with double-sided pressure sensitive tape for stick-on mounting or thru holes for fasteners. Picture frame configurations can be specified as a custom part with the environmental seal bonded at the corners.

Design Guide for Custom Parts

1. Accurate steel rule dies are used for cutting the environmental seal. Accuracy of the finished part is influenced by the softness of the material.
2. Linear tolerances for sponge materials are ± 0.031 in. and ± 0.016 in. for solid per 6 in. run.
3. Position tolerances for hole locations are ± 0.016 in.
4. Minimum distance between any cutouts and environmental seal edge should be equal to the material thickness.
5. Minimum hole diameter should be equal to the material thickness.
6. Compression stops to prevent over compression of the gasket can be specified. Compression stops are available in sheet metal gauges. See Fig. 2 on page 42.
7. Environmental seal dimensions A and B and mesh gasket dimensions C and D must be included in the specification for custom parts.

Standard Sizes



Dimensions (in.)				Part Number
A,C	B	D		
.062	.250	.125	30XE - YYZA - 0001	
.062	.375	.125	30XE - YYZA - 0002	
.062	.500	.125	30XE - YYZA - 0003	
.062	.625	.125	30XE - YYZA - 0004	
.093	.250	.125	30XE - YYZA - 0005	
.093	.375	.125	30XE - YYZA - 0006	
.093	.500	.125	30XE - YYZA - 0007	
.093	.625	.125	30XE - YYZA - 0031	
.093	.750	.125	30XE - YYZA - 0008	
.125	.125	.125	30XE - YYZA - 0009	
.125	.188	.188	30XE - YYZA - 0010	
.125	.250	.125	30XE - YYZA - 0011	
.125	.250	.250	30XE - YYZA - 0012	
.125	.375	.125	30XE - YYZA - 0013	
.125	.500	.125	30XE - YYZA - 0014	
.125	.500	.250	30XE - YYZA - 0015	
.125	.500	.500	30XE - YYZA - 0016	
.125	.625	.125	30XE - YYZA - 0017	
.125	.750	.125	30XE - YYZA - 0018	
.125	.875	.125	30XE - YYZA - 0032	
.188	.188	.125	30XE - YYZA - 0019	
.188	.250	.125	30XE - YYZA - 0020	
.188	.375	.125	30XE - YYZA - 0021	
.188	.375	.250	30XE - YYZA - 0022	
.188	.500	.125	30XE - YYZA - 0023	
.188	.625	.125	30XE - YYZA - 0033	
.188	.750	.250	30XE - YYZA - 0024	
.250	.250	.125	30XE - YYZA - 0025	
.250	.3125	.125	30XE - YYZA - 0035	
.250	.500	.125	30XE - YYZA - 0026	
.250	.625	.125	30XE - YYZA - 0034	
.250	.750	.125	30XE - YYZA - 0027	
.375	.250	.125	30XE - YYZA - 0028	
.375	.500	.250	30XE - YYZA - 0029	
.375	.750	.250	30XE - YYZA - 0030	

Tolerances: Elastomer: ± 0.031 in.
Mesh ± 0.031 in.

How To Order

3000 Series - Twinseal

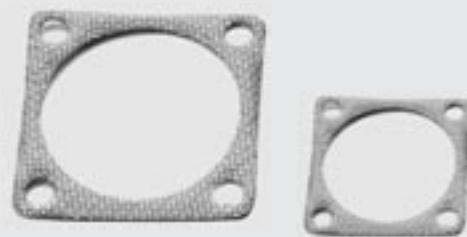
Example: Part number 3011-2011-0015 is monel mesh with neoprene sponge core, 0.125" x .500", bonded to Neoprene sponge with pressure sensitive adhesive. **Unless standard, the sequential number is assigned by the factory.**

3 0	X E	- Y Y	Z A	- X X X X
3000 SERIES				SEQUENTIAL (XXXX)
				ADHESIVE (A) 0 No Adhesive 1 Pressure Sensitive (most common)
				CORE (Z) 0 Mesh Core (most common) 1 Neoprene Sponge 2 Neoprene Solid 3 Neoprene Hollow* 4 Silicone Sponge 5 Silicone Solid 6 Silicone Hollow*
				WIRE (YY) 10 TCS 20 Monel 30 Aluminum 40 Stainless Steel 50 Other
				ENVIRONMENTAL SEAL (E) 1 Neoprene Sponge (most common) 2 Neoprene Solid 4 Silicone Sponge 5 Silicone Solid 9 Other 0 Consult Factory
				CONFIGURATION (X) 1 Single Elastomer - Style 1 (most common) 2 Single Elastomer - Style 2 3 Double Elastomer - Style 3 4 Custom Part - (See pages 33 and 34 for mesh options)

* Unless otherwise specified, Hollow Core diameter is equal to "A" dimension.
For material specifications and performance data refer to page 32.

FOR SIZES NOT SHOWN, PLEASE ASK!

Standard Connector & Waveguide Gaskets



Tech-Etch offers a wide range of standard Connector and Wave Guide Gaskets in a variety of materials for the military and commercial markets. In addition to the standard gaskets, Tech-Etch offers custom designed Connector Gaskets using low cost photoetching and secondary forming to avoid expensive tooling for prototypes and moderate volumes.

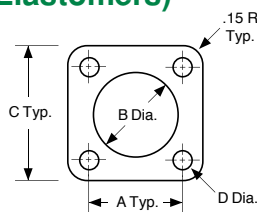
Conductive Elastomers

A wide range of products is available in a variety of materials. The most common configurations are shown. For other configurations a detailed drawing and specifications are required. These gaskets are available in conductive particles in elastomer Series 1000, oriented wire in elastomer Series 4000, monel foil in elastomer Series 5000 and aluminum mesh in elastomer Series 5500. Material specifications and shielding performance may be found on page 32.

CONNECTOR GASKETS

Connector gaskets are available from stock in a variety of materials and configurations. For details of the materials and shielding performance refer to the page indicated in the note below.

AN Connector Gaskets (Conductive Elastomers)



Shell Size	A	B	C	D	Seq. Part No.
8	.594	.500	.875	.172	2008
10	.719	.625	1.000	.172	2010
12	.813	.750	1.094	.172	2012
14	.906	.875	1.188	.172	2014
16	.969	1.000	1.281	.172	2016
18	1.063	1.125	1.375	.203	2018
20	1.156	1.250	1.500	.203	2020
22	1.250	1.375	1.625	.203	2022
24	1.375	1.500	1.750	.203	2024
28	1.563	1.750	2.000	.203	2028
32	1.750	2.000	2.250	.219	2032
36	1.938	2.188	2.500	.219	2036
40	2.188	2.438	2.750	.219	2040
44	2.375	2.781	3.000	.219	2044
48	2.625	3.031	3.250	.219	2048

Consult factory or web site for availability of other sizes.

Note: AN Connector Gaskets and D-Connector Gaskets are available in the following materials:

Series 1000 (conductive media on silicone elastomer) page 40.

Series 4000 (oriented aluminum or monel wires in silicone elastomer) page 42.

Series 5000 (expanded monel or aluminum foil in silicone elastomer) page 44.

Series 5500 (woven aluminum wire mesh in silicone or neoprene elastomer) pg.45.

Metalized Fabric

Standard D Connector Gaskets are described below and on page 37. Custom designed gaskets using metalized fabric wrapped around a polyurethane foam core are fabricated using low cost rule-dies. The conductive fabric is bonded to the core assuring self-termination on all exposed edges.

Beryllium Copper / Stainless Steel

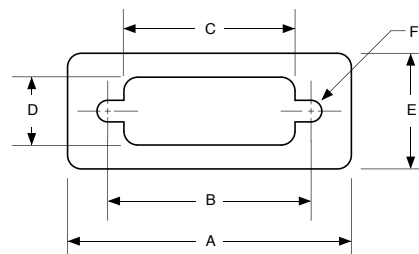
D Connector Shield Gaskets provide shielding for most 9 pin through 50 pin connectors. Independent finger design with a free height of .025 for maximum surface contact provides high attenuation values with low compression forces. They are available in beryllium copper and stainless steel and can be plated in any of the finishes listed on page 6. See page 3 for material specifications.

D-Connector Gaskets

(Conductive Elastomers & Metalized Fabric)

D-Connector gaskets provide shielding for most 9 pin through 50 pin connectors and are available from stock in a variety of materials. For details on Conductive Elastomer materials and shielding performance, refer to the page indicated in the note below. For details on Metalized Fabric 2640 Series standard gaskets, refer to page 30 for specifications and page 29 for ordering information.

Use this chart and drawing to determine the sequential number. Note: Standard 2600 Series Metalized Fabric gaskets have square corners and come with pressure sensitive tape. Consult factory for availability of other sizes.



No. Pins	A	B	C	D	E	F	Seq. Part No.
9	1.313	.98	.78	.44	.750	.07 R.	3009
15	1.641	1.31	1.11	.44	.750	.07 R.	3015
25	2.188	1.85	1.65	.44	.750	.07 R.	3025
37	2.829	2.50	2.29	.44	.750	.07 R.	3037
50	2.740	2.41	2.11	.55	.880	.07 R.	3050

How To Order

Elastomer AN & D-Connector Gaskets

For the Elastomer Series desired, refer to the appropriate page listed at the left to specify the material and thickness. The sequential number after the material codes completes the part number. Example: Part number 5072-2050-2012 is Monoshield .020 inches thick for shell size 12 connector.

Metalized Fabric D-Connector Gaskets

Use the sequential number from the chart above to complete the part number on page 38. All standard Metalized Fabric D Connectors have Nickel over Copper Finish (1), Foam Core (1), and Pressure Sensitive Adhesive (1). Example: Part number 2640-1111-3015-040 is a 15 pin D Connector gasket.

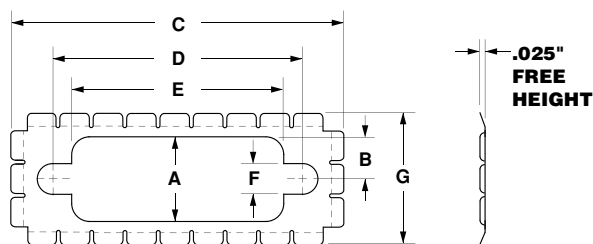


Standard Connector & Waveguide Gaskets

D-Connector Gaskets

(Beryllium Copper / Stainless Steel)

D-Connector Gaskets provide shielding for most 9 pin through 50 pin connectors. Independent finger design with free height of .025 for maximum surface contact provides high attenuation values with low compression forces. D-Connector Gaskets are available from stock in beryllium copper and stainless steel and can be plated in any of the finishes listed on page 6. For details of the materials, refer to page 3.

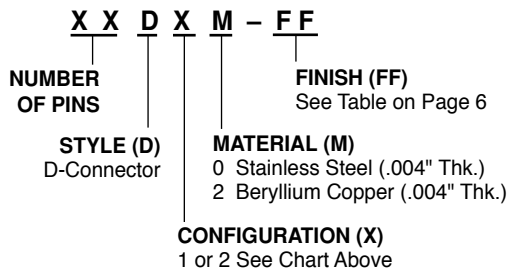


Gasket	A	B	C	D	E	F	G
9 Pin - Config. 1	.44	.22	1.41	.98	.78	.16	.69
9 Pin - Config. 2	.35	.18	1.41	.98	.78	.16	.69
15 Pin - Config. 1	.44	.22	1.74	1.31	1.11	.16	.69
15 Pin - Config. 2	.35	.18	1.74	1.31	1.11	.16	.69
25 Pin - Config. 1	.44	.22	2.28	1.85	1.65	.16	.69
25 Pin - Config. 2	.35	.18	2.28	1.85	1.65	.16	.69
37 Pin - Config. 1	.44	.22	2.93	2.50	2.29	.16	.69
37 Pin - Config. 2	.35	.18	2.93	2.50	2.29	.16	.69
50 Pin - Config. 1	.55	.28	2.84	2.41	2.20	.16	.80
50 Pin - Config. 2	.45	.23	2.84	2.41	2.20	.16	.80

How To Order

Metal D-Connector Gaskets

Example: Part number 25D12-02 is a 25-pin D-Connector Gasket made from Beryllium Copper with a clean and bright finish.



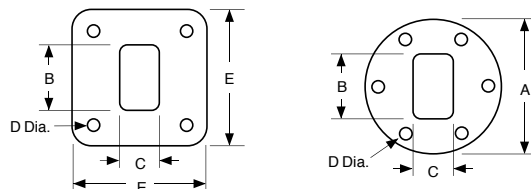
Consult factory for availability of other sizes.

Waveguide Gaskets

(Supershield Conductive Elastomer)

Waveguide gaskets are available from stock in conductive elastomer materials consisting of a silicone binder and a variety of conductive particles. For details on Supershield materials and performance data refer to page 40.

Waveguide Gaskets For Plain Flanges Standard Die Cut Sizes



U.S. U.G.	W.G.	I.E.C.	W.R.	A	B	C	D	E	Seq. No.
-	10	R32	284	5.857	2.878	1.372	0.274	-	1010
53/U	-	-	-	5.312	2.878	1.372	0.281	-	1011
149A/U	12	R48	187	3.625	1.904	0.904	0.219	-	1012
344/U	14	R70	137	3.125	1.404	0.654	0.219	-	1014
39/U	16	R100	90	-	0.932	0.432	0.187	1.625	1016
419/U	18	R140	62	-	0.654	0.342	0.163	1.312	1018
595/U	20	R220	42	-	0.452	0.202	0.135	0.875	1020
599/U	22	R320	28	-	0.312	0.172	0.135	0.750	1022

Note: Waveguide gaskets are available only in the Supershield 1000 Series materials.

How To Order

Supershield Waveguide Gaskets

Refer to page 40 to select the material required. The sequential number after the material codes completes the part number. Example: Part number 1052-0250-1016 is 1000 Series Supershield, standard die cut Waveguide, .020" thick, 50 durometer, 39/U model.

Custom Metal Gaskets

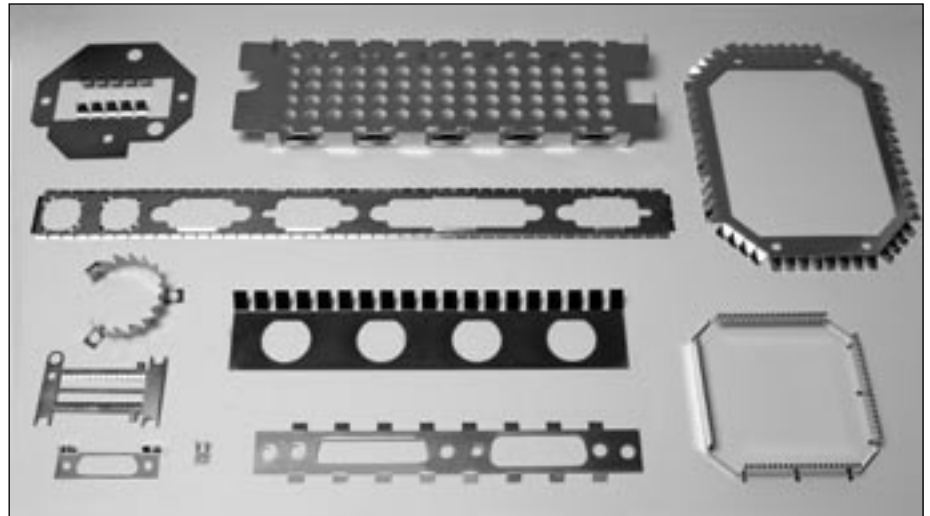


BERYLLIUM COPPER & STAINLESS STEEL

Tech-Etch offers custom-designed metal gaskets using photoetch fabrication and secondary forming to avoid expensive tooling for prototype and small quantities before high volume capable progressive dies are used.

DIMENSIONS and TOLERANCES

Practical limitations for dimensions of slots, spaces and holes (as shown in figure 2) are determined by the metal's thickness. These limitations are expressed in the following guidelines. Tables 3 and 4 give photoetching dimensional tolerances.



See pages 36 and 37 for standard connector and waveguide gasket configurations.

Figure 1
Typical Etched Edge

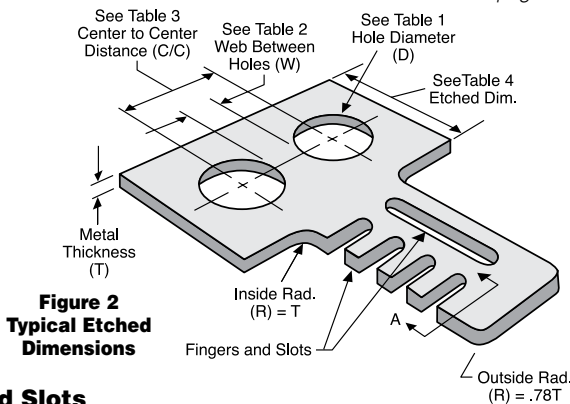
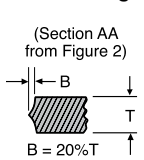


Figure 2
Typical Etched Dimensions

Fingers and Slots

The maximum resolution is .003" wide for slots and fingers on .002" thick material. For thicker material, slots can measure 1.25 times the thickness of the material.

Relationship of Hole Diameter to Metal Thickness

Generally, the diameter of a hole cannot be less than the metal thickness. This relationship, however, varies as the metal thickness changes. A more exact relationship is illustrated in Table 1.

Table 1. HOLES OR SLOTS (photoetched)

Metal Thickness (T)	Diameter or Width
.001"-.005"	1.1 Times Metal Thickness (.003" Min.)
.005" or Over	Min. of 1.1 Times Metal Thickness

Table 2. WEB OR FINGER (photoetched)

Spaces Between Holes	At Least Metal Thickness
----------------------	--------------------------

Table 3. CENTER TO CENTER TOLERANCES (photoetched)

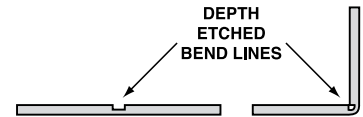
Dimensions (inches)	Tolerance Attainable
1.0" or Less	±.0005"
1.0" - 3.0"	±.0010"
3.0" - 6.0"	±.0020"
6.0" - 10.0"	±.0030"

Table 4. ETCHED DIMENSION TOLERANCES (photoetched)

Thickness (inches)	
.001"	.002"
.005"	.010"
.015"	.020"
.040"	
Empirical ±.0010"	±.0010"
±.0010"	±.0015"
±.0020"	±.0030"
±.0030"	±.0050"

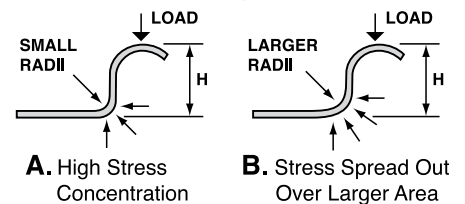
HAND FORMING

For bends that do not require structural strength and where a sharp internal radius is desired, such as board-level shielding applications, depth etched bend lines may be used for hand forming. The lines are produced by etching a groove along the bend line of the part. By eliminating the need for forming tools, the cost is lowered.



BEND RADII

In the forming process, care is taken to design the proper bend radii, since larger radii can withstand a larger deflection without failure. Example B is designed to take a larger deflection (ΔH) than Example A.



HEAT TREATMENT

Tech-Etch can heat-treat many materials, including Beryllium Copper, to achieve close dimensional control. Heat treatment enhances spring qualities by permitting greater deflection without compression set and without increasing the material's stiffness.

TOLERANCES

Preferred forming tolerances are as shown.

Formed Angles



Offset Tolerances



Consult factory if tighter tolerances are desired.

Board Level Shielding



BOARD LEVEL SHIELD
SALES DRAWINGS ON
THE WEB SITE

Tech-Etch specializes in the design and production of custom board level shielding. The photoetching process allows the fabrication of parts with complex shapes and features that are impossible to duplicate by other methods without expensive tooling.

- **Improve flexibility of design**
- **No tooling charges on one and standard two-piece shields**
- **Available with internal dividers for multi-cavity applications**
- **Prototypes available**
- **Mounting pin styles in any configuration**
- **Through holes and slots available for heat dissipation**
- **Soldered or resistance welded seams optional**
- **Custom fence/removable cover option**
- **Form tooling exists for standard spring finger and dimple design**

MATERIALS

Board level shielding is typically etched from .007" - .020" brass, nickel silver, copper or cold rolled steel. Board level shielding can also be manufactured out of beryllium copper, if spring qualities are desired. The standard finish is tin plate. Other finishes are available.

EXAMPLES AVAILABLE

If you need additional information or samples of board level shielding, call or fax us. Our customer service/engineering department will be glad to help you determine appropriate specifications for your board level shielding application.

CONFIGURABLE SALES DRAWINGS

Interactive PDF sales drawings can be downloaded from the website for both one and two-piece board level shields.

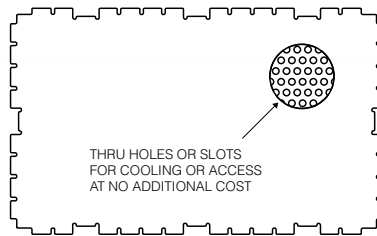
[Click to download 1-Piece BLS PDF.](#)

[Click to download 2-Piece Spring Finger PDF.](#)

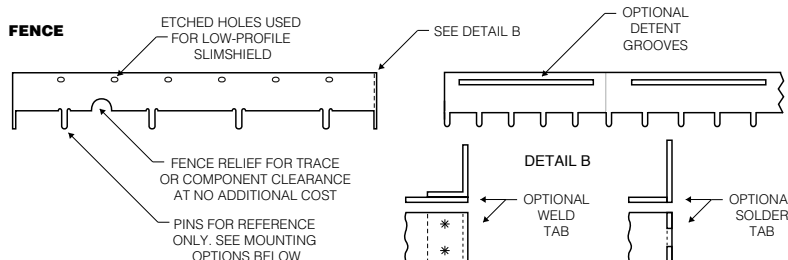
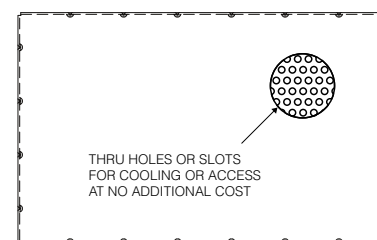
[Click to download 2-Piece Low-Profile PDF.](#)

TWO PIECE ENCLOSURE

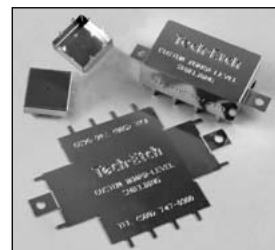
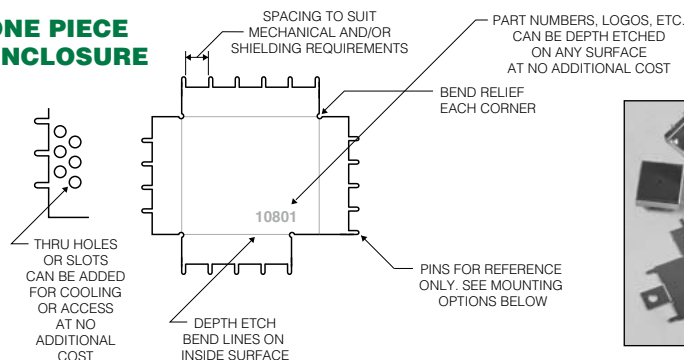
STANDARD SPRING FINGER WITH REMOVABLE COVER



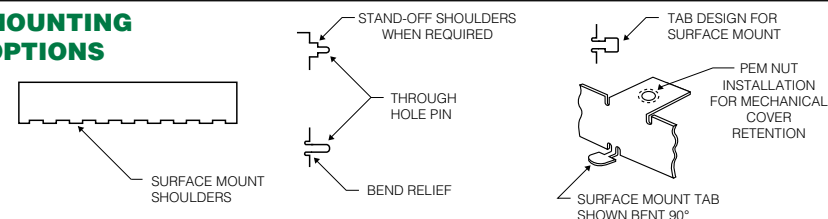
STANDARD LOW PROFILE DIMPLED SLIMSHIELD WITH REMOVABLE COVER



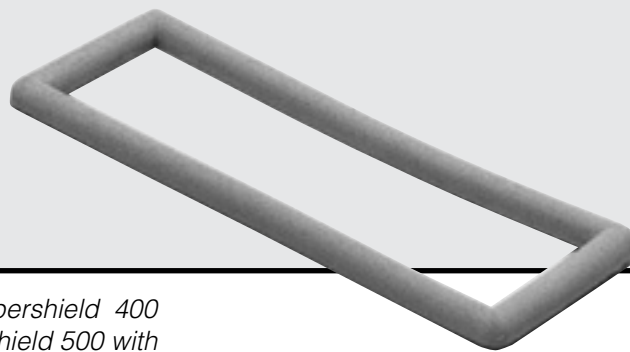
ONE PIECE ENCLOSURE



MOUNTING OPTIONS



1000 Series Supershield



Supershield is a silicone elastomer filled with conductive metal particles to provide high shielding effectiveness and an environmental seal.

The Supershield family uses eight basic conducting media: Supershield 100 with carbon, Supershield 200 with nickel graphite, Supershield 300 with

silver (low density), Supershield 400 with silver nickel, Supershield 500 with silver aluminum, Supershield 600 with silver plated glass, Supershield 700 with pure silver, and Supershield 800 with silver-plated copper.

Values other than Specific Gravity were determined at the indicated durometer

compound. Material specifications (with the exception of specific gravity) may vary at other durometers.

Supershield can be supplied in a variety sizes, standard extrusion sections, or as standard or custom die-cut gaskets.

Material Specifications

Per MIL-DTL-83528

Series	Carbon 100	Nickel Graphite 200	Nickel Graphite 200(FL)	Silver Low D. 300	Silver Nickel 400	Silver Nickel 400(FL)	Silver Aluminum 500	Silver Aluminum 500(FL)	Silver Glass 600	Silver Glass 600(FL)	Silver Pure 700	Silver Pure 700(FL)	Silver Pure 700	Silver Copper 800	Silver Copper 800(FL)	Silver Copper 800	Silver Copper 800
Elastomer	Silicone	Silicone	Fluoro-silicone	Silicone	Silicone	Fluoro-silicone	Silicone	Fluoro-silicone	Silicone	Fluoro-silicone	Silicone	Fluoro-silicone	Silver Silicone	Silicone	Fluoro-silicone	Silicone	Silicone
Color	Black	Dark Gray	Dark Gray	Tan	Tan	Tan	Blue*	Blue*	Tan	Tan	Tan	Tan	Tan	Tan	Tan	Tan	Tan
Specific Gravity, gm/cc	1.2	1.95	1.95	1.7	4.0	4.4	2.0	2.0	1.9	1.9	3.5	4.0	4.0	3.5	4.0	4.8	3.5
Durometer Shore A	70	30-70	65	45	75	70	65	70	65	65	65	75	80	65	75	80	85
MIL-DTL-83528 Type	N/A	N/A	N/A	J	L	-	B	D	M	-	E	F	H	A	C	G	K
Volume Resistivity, Ohm-cm	7.0	0.1	0.1	0.01	0.005	0.012	0.008	0.012	0.006	0.006	0.002	0.002	0.005	0.004	0.01	0.007	0.005
Operating Temp.: Min C	-55°	-55°	-55°	-55°	-55°	-55°	-55°	-55°	-55°	-55°	-55°	-65°	-55°	-55°	-55°	-45°	-45°
Operating Temp.: Max C	200°	150°	150°	160°	125°	160°	160°	160°	160°	160°	160°	160°	160°	125°	125°	125°	125°
Compression Deflection % Min.	3.5	3.5	3.0	8.0	3.5	3.5	3.5	3.5	3.5	3.5	2.5	3.5	2.5	3.5	3.5	2.5	2.5
Tensile Strength, P.S.I.	650	150	150	150	200	180	200	180	200	200	300	250	400	200	180	600	400
Elongation % Min.	100%	100%	100%	50%	100%	60%	100%	60%	100%	100%	200%	100%	90%	100%	100%	20%	100%
Elongation % Max.	-	-	-	250%	300%	260%	300%	260%	300%	300%	500%	300%	290%	300%	300%	N/A	300%
Compression Set %	40	35	25	35	32	30	32	30	30	30	45	60	60	32	35	N/A	35
Tear Strength lb./in.	40	40	35	20	30	35	30	35	30	30	50	40	60	25	35	70	40
Shielding Effectiveness (100 Mhz)	80	100	100	100	120	120	120	120	100	100	120	120	120	120	120	120	120
Shielding Effectiveness (500 Mhz)	80	100	100	100	120	120	120	120	100	90	120	120	120	120	120	120	120
Shielding Effectiveness (2 Ghz)	60	100	100	90	120	115	115	115	90	90	120	120	120	120	120	120	120
Shielding Effectiveness (10 Ghz)	50	100	100	90	110	110	115	115	90	90	120	120	120	120	115	120	120

* May also be special ordered in Tan.

Sheet Materials

Sheet Sizes

L	W	Sequential #
10.00" x 10.00"		0002
10.00" x 15.00"		0007
10.00" x 20.00"		0004
12.00" x 12.00"		0003
12.00" x 18.00"		0001
15.00" x 20.00"		0005
17.80" x 20.50"		0006
24.00" x 24.00"		0008

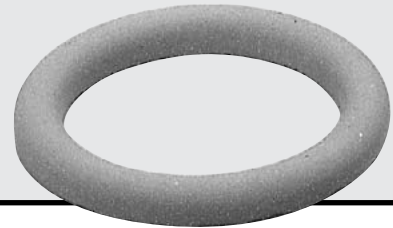
Sheet Thicknesses

.020" Thick
.030" Thick
.032" Thick
.040" Thick
.060" Thick
.062" Thick
.093" Thick
.125" Thick

Note: Add "FL" to the end of the Part Number for Fluorosilicone. Values other than specific gravity were determined with indicated durometers. Other durometers are available but may alter values.

FOR SIZES NOT SHOWN, PLEASE ASK!

1000 Series Supershield



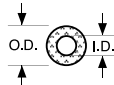
Extrusions

Round



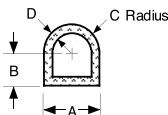
D (Dia.)	Sequential #	D (Dia.)	Sequential #
0.040	1010	0.125	1005
0.053	1011	0.130	1015
0.062	1001	0.139	1006
0.070	1002	0.150	1016
0.080	1012	0.160	1007
0.093	1003	0.188	1008
0.103	1004	0.216	1017
0.112	1013	0.250	1009
0.119	1014		

Hollow Round



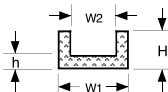
O.D. (in.)	I.D. (in.)	Sequential #
0.070	0.025	2026
0.093	0.035	2027
0.103	0.040	2028
0.125	0.045	2029
0.125	0.062	2021
0.156	0.050	2022
0.177	0.079	2030
0.250	0.125	2023
0.312	0.192	2031
0.375	0.250	2025
0.437	0.250	2032

Hollow "D"



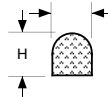
A	B	C	D	Sequential #
0.156	0.045	0.078	0.045	4041
0.156	0.078	0.078	0.045	4042
0.187	0.093	0.093	0.050	4043
0.250	0.125	0.125	0.065	4044
0.312	0.156	0.156	0.062	4045
0.487	0.080	0.244	0.080	4048

Channel



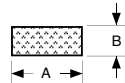
H	h	W1	W2	Sequential #
0.100	0.033	0.100	0.034	5051
0.110	0.050	0.126	0.026	5052
0.156	0.047	0.156	0.062	5053
0.156	0.075	0.175	0.047	5054
0.225	0.075	0.126	0.020	5057
0.235	0.115	0.327	0.062	5058

Solid "D"



H	W	Sequential #
0.064	0.055	3041
0.068	0.062	3031
0.078	0.094	3032
0.089	0.078	3033
0.094	0.094	3042
0.100	0.062	3034
0.110	0.150	3035
0.131	0.122	3043
0.136	0.124	3036
0.156	0.118	3037
0.156	0.156	3044
0.175	0.178	3038
0.188	0.188	3039
0.250	0.250	3040

Rectangular Solid



A	B	Sequential #
0.032	0.032	6061
0.060	0.080	6062
0.063	0.042	6063
0.093	0.093	6076
0.095	0.062	6064
0.120	0.075	6065
0.125	0.062	6066
0.156	0.062	6067
0.250	0.062	6068
0.500	0.075	6069
0.500	0.125	6070
0.500	0.188	6071
0.500	0.250	6077
0.750	0.062	6072
0.880	0.062	6073
1.000	0.250	6074
1.180	0.062	6075

How To Order

1000 Series - Supershield

Example: Part number 1016-0650-0041 is 1000 Series Supershield with silver plated glass conductive particles in .06 in. thick sheet with a 50 durometer hardness. **Unless standard, the sequential number is assigned by the factory.**

1 0 X X - Y Y Z Z - X X X X - FL
1000 **SEQUENTIAL** **FLUOROSILICONE**
SERIES **(XXXX)** **Add "FL" if required.**

DUROMETER (ZZ)
 See Page 40 Chart
 for Standard Durometer

SHEET THICKNESS (YY)
 00 Non-sheet 06 .060" Thick
 02 .020" Thick 09 .093" Thick
 03 .030" Thick 12 .125" Thick
 04 .040" Thick 32 .032" Thick
 62 .062" Thick

CONDUCTING MEDIA (X)

- 1 Carbon (100)
- 2 Nickel Graphite (200)
- 3 Silver Low Density (300)
- 4 Silver Nickel (400)
- 5 Silver Aluminum (500)
- 6 Silver Plated Glass (600)
- 7 Pure Silver (700)
- 8 Silver Plated Copper (800)
- 9 Other

CONFIGURATION (X)

- 1 Sheet 4 Fabricated Part (Custom)
- 2 Extruded Strip 5 Standard Die Cut Connector or Waveguide
- 3 Molded

FOR SIZES NOT SHOWN, PLEASE ASK!

4000 Series Multishield

Multishield is a composite material containing excellent shielding with an efficient environmental seal. The material is manufactured with a matrix of wires embedded in silicone rubber and aligned perpendicular to the contact surfaces. Multishield is available in strips up to 5/8 in. wide, sheets up to 9 in. wide, custom gaskets and standard gaskets.

Application Notes

Adhesive Mounting

Multishield can be bonded to sheet metal using a thin film of RTV 3145 (or equivalent) or 3M 950 pressure sensitive adhesive. Pressure must be applied to the bond for the duration of the adhesive cure time to assure good contact of the wires to metal.

Die Cut gaskets

Custom gaskets can be fabricated from solid or sponge multishield using inexpensive rule dies. See Fig. 1 for tolerancing and design guides. For standard product connector and waveguide gaskets, see page 36.

Picture Frame Gaskets

Picture frame gaskets can be fabricated from solid or sponge multishield strip material. Corner joints are bonded with RTV 3145. See Fig. 1 below for tolerances and design guides.

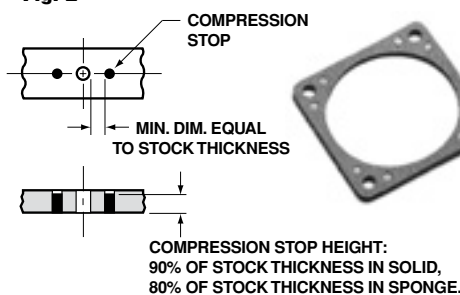
Compression Range

Recommended compression range is 5-10% for solid and 20-25% for sponge material.

Compression Stops

Compression stops are recommended to control the amount of compression at assembly and to prevent excess compression at the fastener locations. Aluminum compression stops are available. See Fig. 2 for design guides.

Fig. 2



Material Specifications

Solid Silicone	A-A-59588, Class II, Grade 40 (Formerly ZZ-R-765)
Temperature Range	-60°C to 219°C
Sponge Silicone	AMS-3195
Temperature Range	-75°C to 205°C
Aluminum Wire	AMS 4182, Alloy 5056
Monel Wire	QQ-N-281 Class A
Wire Density / In. ²	
Silicone Solid	900 ±15%
Silicone Sponge	600 ±15%
Seal	Waterproof

EMI Shielding Performance

Wire Type	Material	H-Field 200kHz	E-Field 10MHz	P-Field 1GHz
Monel	Sponge	70 dB	120 dB	125 dB
Monel	Solid	70 dB	125 dB	125 dB
Aluminum	Sponge	70 dB	85 dB	70 dB
Aluminum	Solid	70 dB	100 dB	100 dB

Sheet Materials

Width (in.)	Thick (in.)	Part Number
3.0	.032	4010 - YYZA - 0062
4.5	.032	4010 - YYZA - 0063
6.0	.032	4010 - YYZA - 0064
9.0	.032	4010 - YYZA - 0066
3.0	.045	4010 - YYZA - 0001
4.5	.045	4010 - YYZA - 0002
6.0	.045	4010 - YYZA - 0003
9.0	.045	4010 - YYZA - 0005
3.0	.062	4010 - YYZA - 0006
4.5	.062	4010 - YYZA - 0007
6.0	.062	4010 - YYZA - 0008
9.0	.062	4010 - YYZA - 0010
3.0	.094	4010 - YYZA - 0011
4.5	.094	4010 - YYZA - 0012
6.0	.094	4010 - YYZA - 0013
9.0	.094	4010 - YYZA - 0015
3.0	.125	4010 - YYZA - 0016
4.5	.125	4010 - YYZA - 0017
6.0	.125	4010 - YYZA - 0018
9.0	.125	4010 - YYZA - 0020
3.0	.156	4010 - YYZA - 0059
3.0	.188	4010 - YYZA - 0058

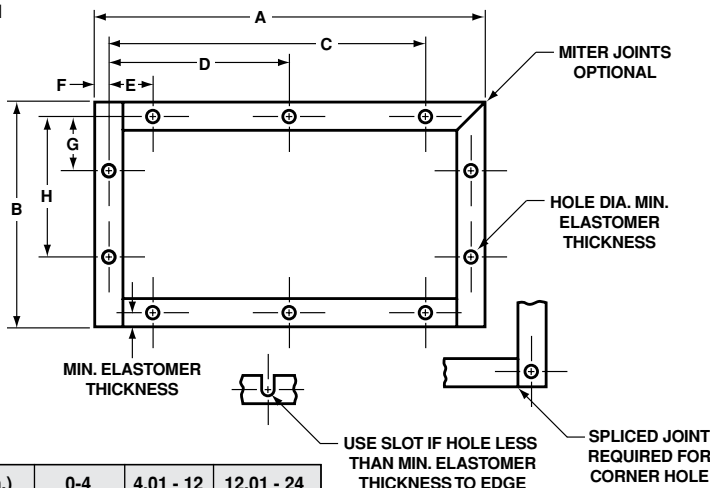
FOR SIZES NOT SHOWN,
PLEASE ASK!

Thickness Tolerance Sheet & Strip Material

.032 in. - .045 in.	+.010 -.005
.062 in. - .250 in.	±.010

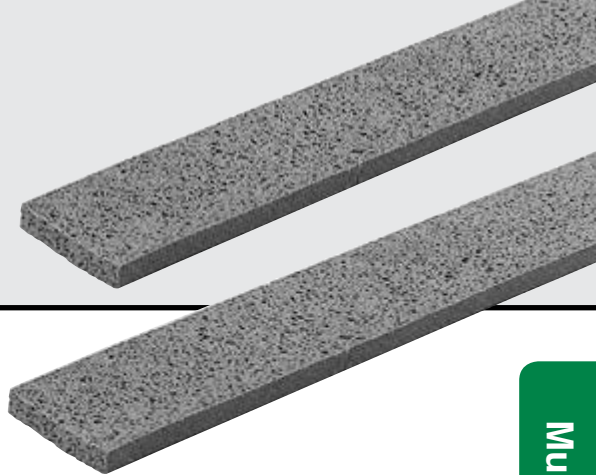
See next page for
How To Order.

Fig. 1



Length (in.)	0-4	4.01 - 12	12.01 - 24
A, B	±.020	±.031	±.040
C, D, E, F, G, H	±.010	±.015	±.020

4000 Series Multishield



Multishield Material

Strip Materials

Width (in.)	Thick (in.)	Part Number
.125	.032	4020 - YYZA - 0070
.188	.032	4020 - YYZA - 0071
.250	.032	4020 - YYZA - 0072
.313	.032	4020 - YYZA - 0073
.125	.045	4020 - YYZA - 0074
.188	.045	4020 - YYZA - 0075
.250	.045	4020 - YYZA - 0076
.313	.045	4020 - YYZA - 0077
.375	.045	4020 - YYZA - 0078
.500	.045	4020 - YYZA - 0079
.625	.045	4020 - YYZA - 0080
.125	.062	4020 - YYZA - 0021
.188	.062	4020 - YYZA - 0022
.250	.062	4020 - YYZA - 0023
.313	.062	4020 - YYZA - 0024
.375	.062	4020 - YYZA - 0025
.500	.062	4020 - YYZA - 0026
.625	.062	4020 - YYZA - 0027
.125	.094	4020 - YYZA - 0028
.188	.094	4020 - YYZA - 0029
.250	.094	4020 - YYZA - 0030
.313	.094	4020 - YYZA - 0031
.375	.094	4020 - YYZA - 0032
.500	.094	4020 - YYZA - 0033
.625	.094	4020 - YYZA - 0034
.125	.125	4020 - YYZA - 0035
.188	.125	4020 - YYZA - 0036
.250	.125	4020 - YYZA - 0037
.313	.125	4020 - YYZA - 0038
.375	.125	4020 - YYZA - 0039
.500	.125	4020 - YYZA - 0040
.625	.125	4020 - YYZA - 0041
.750	.125	4020 - YYZA - 1017
.125	.156	4020 - YYZA - 0042
.125	.188	4020 - YYZA - 0043
.188	.188	4020 - YYZA - 0044
.250	.188	4020 - YYZA - 0045
.313	.188	4020 - YYZA - 0046
.375	.188	4020 - YYZA - 0047
.500	.188	4020 - YYZA - 0048
.625	.188	4020 - YYZA - 0049
.125	.250	4020 - YYZA - 0050
.188	.250	4020 - YYZA - 0051
.250	.250	4020 - YYZA - 0052
.313	.250	4020 - YYZA - 0053
.375	.250	4020 - YYZA - 0054
.500	.250	4020 - YYZA - 0055
.625	.250	4020 - YYZA - 0056
.750	.250	4020 - YYZA - 1183

FOR SIZES NOT SHOWN,
PLEASE ASK!

How To Order

Sheet

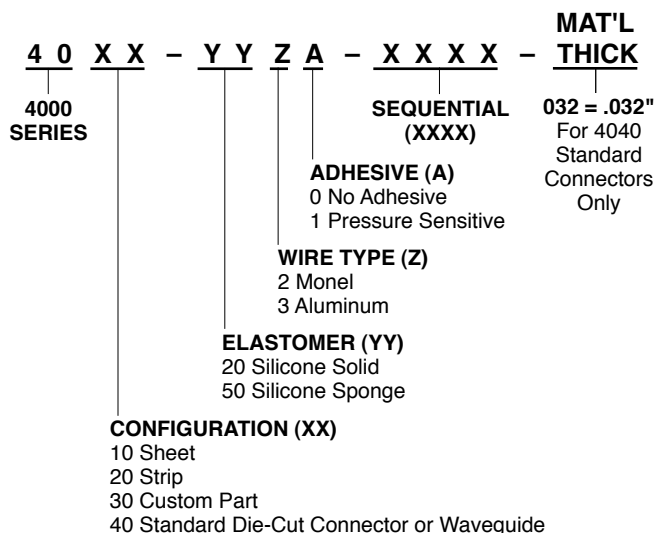
By part number in feet, usually supplied in lengths of 3 feet (approximately) or joined multiples.

Strip

Use part number listed in Strip Materials box and specify number of feet needed. Standard strip length is 3 feet. Bonded, continuous lengths are available on special order.

4000 Series - Multishield

Example: Part number 4030-2020-0310 is Silicone solid Monel Multishield with no adhesive, fabricated to customer's requirements of thickness and outline. **Unless standard, the sequential number is assigned by the factory.**



For material specifications and performance data refer to page 32.

Custom Gaskets

Multishield die-cut gaskets, like those pictured here, are available in both standard and custom configurations. See page 36 for standard gaskets.

Strip Width Tolerance		
Width	Solid	Sponge
Up to .250 in.	±0.015	±0.031
.250 in. to .375 in.	±0.031	±0.031
.375 in. to .750 in.	±0.031	±0.046
.750 in. to 1.000 in.	±0.046	±0.062



5000 Series Monoshield

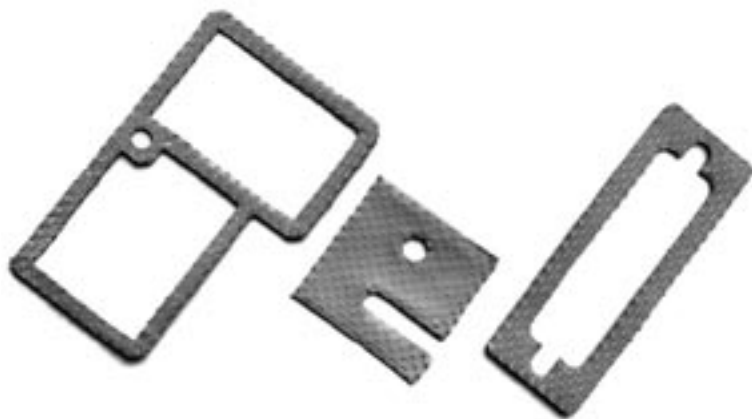
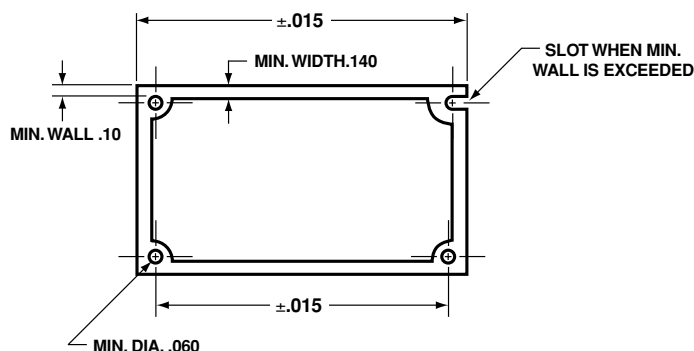
Monoshield is intended for applications where the gasket is limited to 0.02 in. thickness and gap irregularities do not exceed 0.003 in. The material consists of a fine monel or aluminum which is expanded (as per MIL-S-46044) and impregnated with a 50 durometer silicone rubber. The manufacturing process exposes approximately 225 points of contact per square inch to provide an efficient EMI shield with a pressure seal good up to 50 PSI between mating surfaces. These gaskets should not be reused after having been compressed.

Monoshield can be supplied with or without silicone impregnation in sheets or die cut gaskets. For custom die cut gaskets, use the guide in Fig. 1.

Standard Gaskets

Please refer to the Standard Product Connector and Waveguide Gaskets Section on page 36.

Fig. 1



Material Specifications

Expanded Monel.....	QQ-N-281
Expanded Aluminum.....	QQ-A-250
Solid Silicone Elastomer.....	A-A-59588, Class II, Grade 50 (Formerly ZZ-R-765)
Contacts (approx.).....	225/inch ²
Temperature Range.....	-60 to 219°C

EMI Shielding Performance

	H-Field 100kHz	E-Field 10MHz	P-Field 1GHz
Monoshield	55 dB	>120 dB	85 dB

Standard Sheet Sizes

Elastomer	Thickness x Width	Part Number
None	.020 in. x 12.0 in.	5012-Y000-0001
None	.030 in. x 12.0 in.	5013-Y000-0001
Silicone (solid)	.020 in. x 12.0 in.	5012-Y050-0001
Silicone (solid)	.030 in. x 12.0 in.	5013-Y050-0001

Thickness tolerances all types ± 0.004 in.
Lengths up to 25 ft.

FOR SIZES NOT SHOWN, PLEASE ASK!

How To Order

5000 Series - Monoshield

Example: Part number 5012-2050-0110 is .020 thick silicone (solid) 5000 Series Monoshield with monel expanded metal die-cut to customer requirements. **Unless standard, the sequential number is assigned by the factory.**

5	0	X	T	-	Y	Y	Z	Z	-	X	X	X	X
5000 SERIES					ELASTOMER (ZZ)					SEQUENTIAL (XXXX)			
					00 None								
					50 Silicone (solid)								
					Metal (YY)								
					20 Monel								
					30 Aluminum								
					THICKNESS (T)								
					2 .020 in. Thick								
					3 .030 in. Thick								
					CONFIGURATION (X)								
					1 Sheet (12.0 in. wide)								
					3 Fabricated Part (Custom)								
					7 Standard Die Cut Connector or Waveguide								

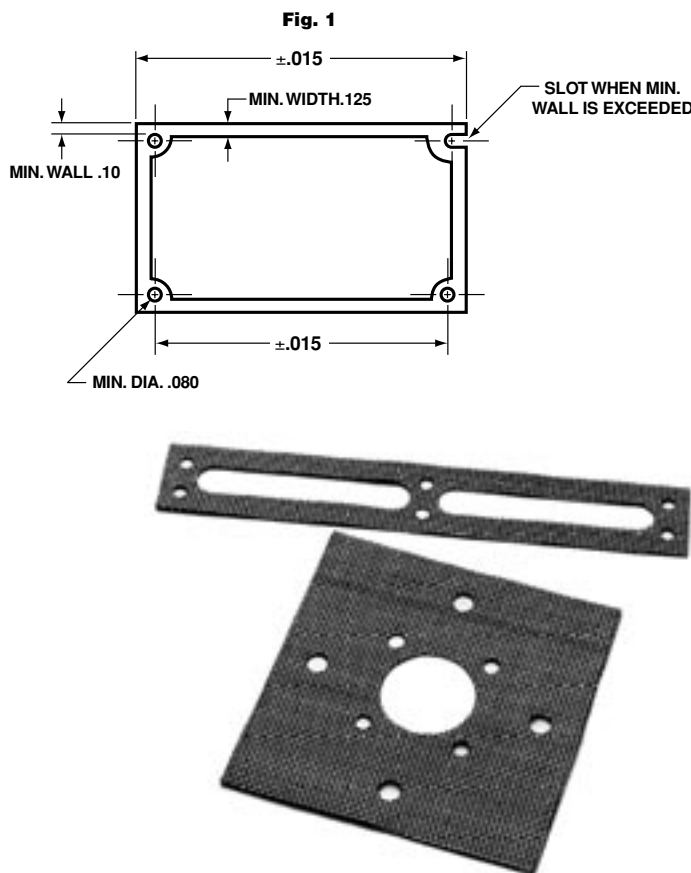
5500 Series Weaveshield

Weaveshield is a composite EMI and pressure seal gasket material used for very small gaps having a joint unevenness of no more than 0.002 in. The material is comprised of a woven aluminum wire screen impregnated with either a neoprene or silicone elastomer. A closing force of 70 to 110 PSI is recommended to obtain a moisture seal. Under favorable conditions, a pressure seal can be obtained. Weaveshield can be supplied in sheets or die cut gaskets. For custom die cut gaskets, use the guide in Fig. 1.

Weaveshield can be supplied in sheets to your size specifications, or as custom die-cut gaskets like those pictured below.

Standard Gaskets

Please refer to the Standard Product Connector and Waveguide Gaskets Section on page 36.



Material Specifications

Aluminum.....	AMS-4182A
	0.016 in. thick, 30 x 30 mesh
	0.020 in. thick, 24 x 24 mesh
Neoprene or Equivalent.....	AMS-3222
	< 50 durometer
	-40 to 100° C (-40 to 212° F)
Silicone.....	AMS-3302D
	< 50 durometer
	-60 to 260° C (-76 to 500° F)

EMI Shielding Performance

	H-Field 100kHz	E-Field 10MHz	P-Field 1GHz
Weaveshield	43 dB	>100 dB	57 dB

Standard Sheet Sizes

Elastomer	Thickness x Width	Aluminum Wire	Part Number
Neoprene	.016 in. x 8.0 in.	30 mesh	5510-3024-0001
Neoprene	.016 in. x 12.0 in.	30 mesh	5510-3024-0002
Neoprene	.020 in. x 8.0 in.	24 mesh	5510-3225-0001
Neoprene	.020 in. x 12.0 in.	24 mesh	5510-3225-0002
Silicone	.016 in. x 8.0 in.	30 mesh	5510-3054-0001
Silicone	.016 in. x 12.0 in.	30 mesh	5510-3054-0002
Silicone	.020 in. x 8.0 in.	24 mesh	5510-3255-0001
Silicone	.020 in. x 12.0 in.	24 mesh	5510-3255-0002

Thickness tolerances all types ±0.004 in.
Lengths up to 25 ft.
Consult factory for other widths.

FOR SIZES NOT SHOWN, PLEASE ASK!

How To Order

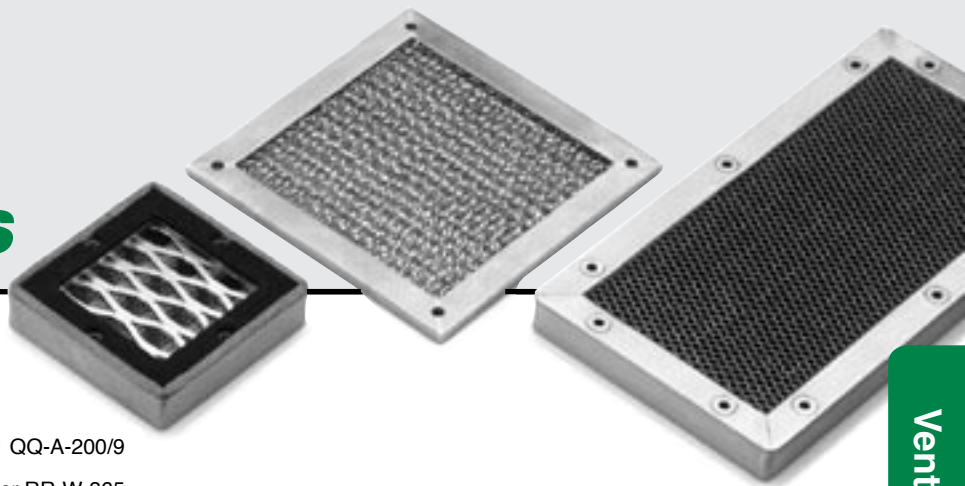
5500 Series - Weaveshield

Example: Part number 5510-3054-0001 is .016 in. thick silicone impregnated with 30 mesh aluminum wire 8.0 in. wide. **Sequential number is assigned by the factory, and shows customer requirement in feet.**

5 5	X X	-	Y Y	Z Z	-	X X X X
5500 SERIES						SEQUENTIAL (XXXX)
				ELASTOMER (ZZ)		
				24 Neoprene .016 in.		
				25 Neoprene .020 in.		
				54 Silicone .016 in.		
				55 Silicone .020 in.		
			WIRE TYPE (YY)			
			30 Aluminum (30 mesh) .016 Thick			
			32 Aluminum (24 mesh) .020 Thick			
		CONFIGURATION (XX)				
		10 Sheet				
		30 Fabricated Part (Custom)				
		40 Standard Die Cut Connector or Waveguide				

Trimshield Extrusions

Vent & Filter Specifications



Material Specifications

Extrusion.....Aluminum Alloy 6063-T1 QQ-A-200/9
 Filter Media..... Aluminum Alloy 5056, per RR-W-365
 Honeycomb Aluminum Alloy MIL-C-7438
 (THK. 1/8", 1/4", 3/8", 1/2", 3/4", 1.0")
 GrillesAluminum Alloy 3003-H-14, per QQ-A-359
 Finish.....Chem Film to MIL-DTL-5541 Class 1A (STD)
 Also Available: Bright Tin, Electroless Nickel, or Chem Film - Class 3.
 RFI Gasket Mesh (Monel, T.C.S., or Al), BeCu, or Metalized Fabric
 Twinseal..... Neoprene Sponge .093" Thk.
 to ASTM D6576, Type II, Grade A (Formerly MIL-R-6130)

8200 SERIES

EMI Shielding Performance 1/8 Cell Size, 1/4 Thick

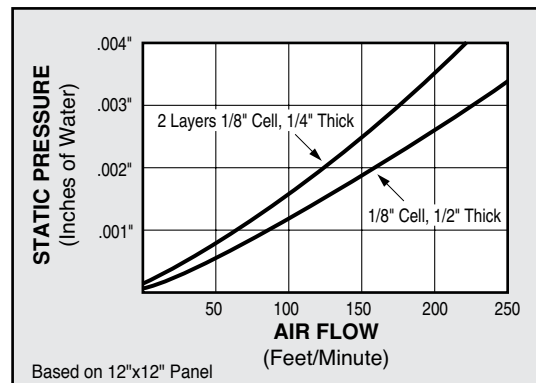
Honeycomb Finish	E-Field 10MHz	Plane Wave 1GHz	Plane Wave 10GHz
Chem Film	70 dB	50 dB	30 dB

8000 & 8300 SERIES

EMI Shielding Performance 1/8 Cell Size, 1/2 Thick

Standard Honeycomb Finish	H-Field 100kHz	E-Field 10MHz	Plane Wave 1GHz	Plane Wave 10GHz
Chem Film	40 dB	75 dB	60 dB	40 dB
Tin	70 dB	125 dB	100 dB	80 dB
Nickel	75 dB	130 dB	115 dB	95 dB
Cross-Cell Honeycomb Finish	H-Field 100kHz	E-Field 10MHz	Plane Wave 1GHz	Plane Wave 10GHz
Chem Film	60 dB	105 dB	90 dB	80 dB

Airflow Characteristics

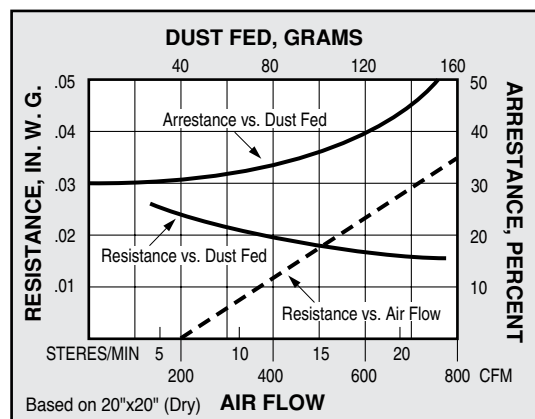


8500 SERIES

EMI Shielding Performance

Finish	H-Field 100kHz	E-Field 10MHz	Plane Wave 1GHz	Plane Wave 10GHz
Chem Film	50 dB	80 dB	55 dB	40 dB

Airflow Characteristics

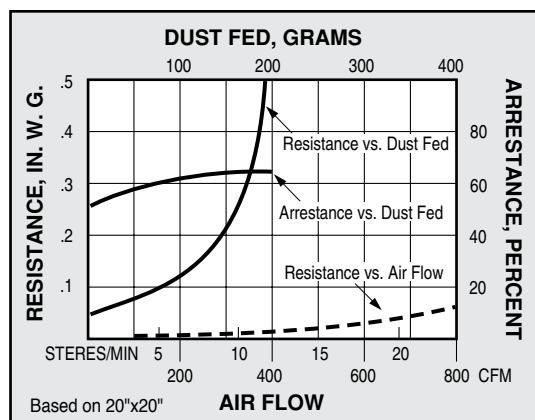


8900 SERIES

EMI Shielding Performance

Finish	H-Field 100kHz	E-Field 10MHz	Plane Wave 1GHz	Plane Wave 10GHz
Chem Film	45 dB	85 dB	55 dB	40 dB

Airflow Characteristics



8000 Series Honeycomb Vents

The 8000 Series Vents are manufactured in both custom and standard configurations. Shielding performance is achieved from 1/8 cell aluminum honeycomb panels mounted in high strength extruded aluminum frames available in 14 sizes as shown. Frame to enclosure shielding options include Twinseal (page 35), Mesh gaskets (page 32), Beryllium copper shielding strips (page 3) or Metalized Fabric Gaskets (page 30).

Shielding effectiveness and environmental protection can be improved by plating with tin or nickel. The highest level of shielding is achieved with a cross cell configuration where two 1/4 thick honeycomb panels are assembled with the foil seams oriented 90 degrees from each other.

Standard vents are available in Frame 01 with 8-32 threaded blind inserts for mounting. See chart below for sizes.

For custom requirements, frame, frame to enclosure shielding, finish and dimensional specifications are required. See Fig. 1.

Honeycomb Vent Aluminum Frames

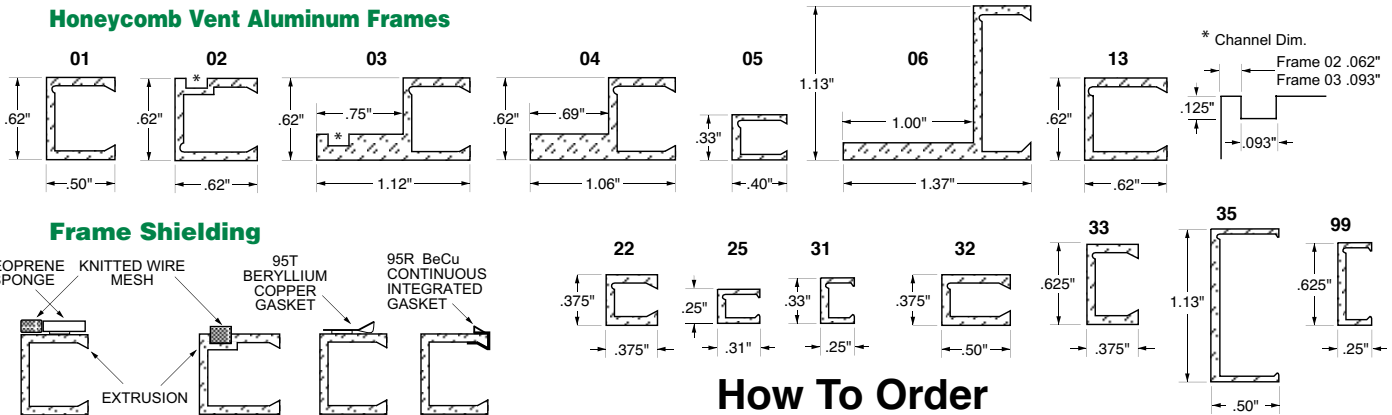
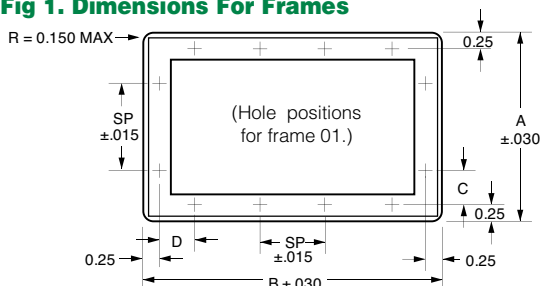


Fig 1. Dimensions For Frames



Supply dimensions A, B, C, & D for non-standard frames. Note: Try to avoid placing holes or inserts at the corners of frame.

Standard Frame Sizes: Frame 01

Outer Dimensions A x B	Sequential Part Number	Inserts Vertical No. C SP	Inserts Horizontal No. D SP
4" x 4"	0001	1 1.75" -	1 1.75" -
4" x 8"	0002	1 1.75" -	3 0.75" 3.00
5" x 5"	0003	1 2.25" -	2 0.75" 3.00
5" x 10"	0004	1 2.25" -	3 1.25" 3.50
6" x 6"	0005	2 1.00" 3.50	2 1.00" 3.50
6" x 12"	0006	2 1.00" 3.50	4 1.25" 3.00
7" x 7"	0007	2 1.50" 3.50	2 1.50" 3.50
7" x 14"	0008	2 1.50" 3.50	4 1.50" 3.50
8" x 8"	0009	2 2.00" 3.50	3 0.75" 3.00
8" x 16"	0010	3 0.75" 3.00	5 1.25" 3.25
10" x 10"	0011	3 1.25" 3.50	3 1.25" 3.50
12" x 12"	0012	4 1.25" 3.00	4 1.25" 3.00

FOR SIZES NOT SHOWN, PLEASE ASK!

How To Order

8000 Series Shielded Vent Panels - Honeycomb

Example: Part number 8001-3202-0009 is a shielded aluminum slant honeycomb vent with a Frame 01 x 8" and Twinseal with monel mesh gasket. **Unless standard, the sequential number is assigned by the factory.**

8 0 X X - Y Y Z Z - X X X X
8000 SERIES SEQUENTIAL (XXXX)

SHIELD MEDIUM (Z)

- 1 Honeycomb straight
- 2 Honeycomb slant
- 3 Honeycomb cross-cell
- 4 Honeycomb cross-cell slant

HONEYCOMB MATERIAL (Z)

0 Aluminum 1/8 Cell

GASKET (YY)

- | | |
|------------------------------|---------------------------------------|
| 00 None | 33 Twinseal With Aluminum Mesh |
| 10 Mesh (T.C.S.) | 34 Twinseal With Stainless Steel Mesh |
| 20 Mesh (Monel) | 50 BeCu 95T |
| 30 Mesh (Aluminum) | 58 BeCu 95R |
| 31 Twinseal With T.C.S. Mesh | 60 Metalized Fabric Over Foam |
| 32 Twinseal With Monel Mesh | 90 Custom |

FRAME (XX)

- | | | | |
|--------------------|----|----|----|
| 00 Custom/No Frame | 03 | 13 | 32 |
| 01 | 04 | 22 | 33 |
| 02 | 05 | 25 | 35 |
| | 06 | 31 | 99 |

8200 Series Shielded Fan Vents

The 8200 Series Shielded Fan Vents with optional dust screens are designed to provide EMI shielding and maximum air flow without degrading the fan output. These vents provide a low cost option to perforated metal when airflow rates are critical. Tech-Etch stocks fan vents in 6 sizes corresponding to industry standard fans with standard 4-hole mounting. Shielding performance is achieved from 1/8 cell aluminum honeycomb panels mounted in high strength extruded aluminum frames with beryllium copper shielding strips for shielding the frame to the enclosure. Dust screens consisting of multilayer expanded aluminum can be added, but airflow will be restricted. See page 47 for EMI performance and complete specifications.

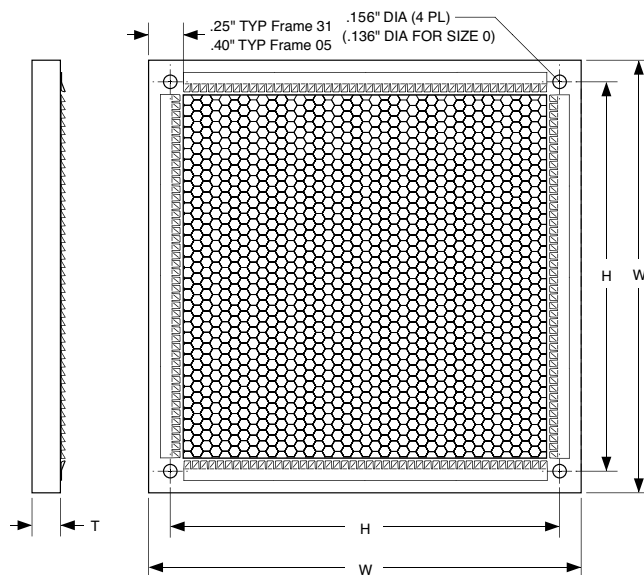
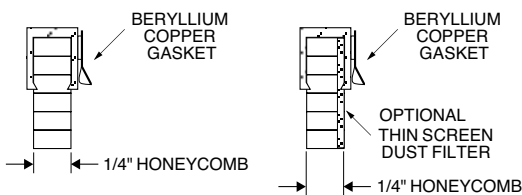


Interactive



Click here for sales drawing on 8200 Shielded Fan Vents.

Shielded Fan Vents



Sequential Number For Frame Size				
Size	Dimensions			Size Code XXXX
	W	H	T	
0	1.57"	1.26"	.33"	0126
1	2.36"	1.97"	.33"	0197
2	3.14"	2.81"	.33"	0281
3	4.69"	4.13"	.33"	0413
4	5.00"	4.45"	.33"	0445
5	3.62"	3.25"	.33"	0325

How To Order

8200 Series Shielded Fan Vents - Honeycomb

Example: Part number 8205-5005-0445 is a shielded 1/8 cell honeycomb fan vent 5.00" wide by 5.00" high by .33" thick with an aluminum dust screen. **Unless standard, the sequential number determines the size of the frame.**

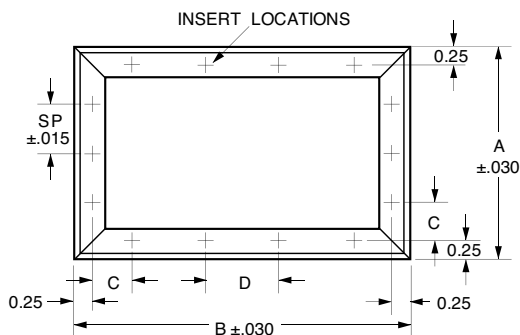
8 2	XX	-	5 0	Z Z	-	XX XX
8200 SERIES						SEQUENTIAL
						0126 Frame Size 0 0197 Frame Size 1 0281 Frame Size 2 0413 Frame Size 3 0445 Frame Size 4 0325 Frame Size 5
						DUST SCREEN (Z)
						1 No dust screen 5 With dust screen
						HONEYCOMB MATERIAL (Z)
						0 Aluminum 1/8 Cell
						GASKET (50)
						50 BeCu 95T
						FRAME (XX)
						05 31

8300 Series Quiet Vents



The 8300 Series Quiet Vents are designed to provide high shielding performance of up to 90 dB attenuation with very low costs. These honeycomb vents are offered as an alternative to perforated metal or slots to reduce turbulence and noise by providing an unrestricted and quiet airflow. Shielding performance is achieved from two 1/4 inch thick honeycomb panels assembled in a cross cell configuration. The panels are mounted in high strength extruded aluminum frames with optional threaded inserts or thru holes as detailed below. Frame to enclosure shielding comes from Twinseal (page 35).

Quiet Vents



Insert/Hole Locations

For the height (A) and the width (B) use the chart to determine number and location of the threaded inserts or through holes per side.

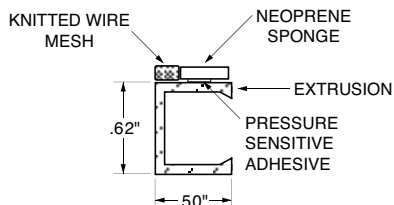
Standard Length	Number Of Inserts	C	D
3" (A or B)	1	1.25"	NA
4" (A or B)	1	1.75"	NA
5" (A Only)	1	2.25"	NA
5" (B Only)	2	.75"	3.00"
6" (A or B)	2	1.00"	3.50"
7" (A or B)	2	1.50"	3.50"
8" (A Only)	2	2.00"	3.50"
8" (B Only)	3	.75"	3.00"
9" (A or B)	3	.75"	3.50"
10" (A or B)	3	1.25"	3.50"
12" (A or B)	4	1.25"	3.00"
14" (A or B)	4	1.50"	3.50"
16" (A or B)	5	1.25"	3.25"

Frame Style 1a and 1b

Style 1a has threaded inserts.

Style 1b has through holes.

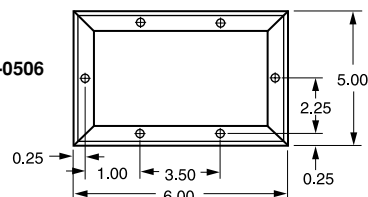
Finish is MIL-DTL-5541 Chem Film. Other finishes can be supplied if required.



Sequential Numbers For Standard Frame Sizes - Chart AABB

		Horizontal Size (B) of Frame										
		3"	4"	5"	6"	7"	8"	9"	10"	12"	14"	16"
Vertical Size (A) of Frame	3"	0303	0304	0305	0306	0307	0308	0309	0310	0312	0314	0316
	4"	0403	0404	0405	0406	0407	0408	0409	0410	0412	0414	0416
	5"	0503	0504	0505	0506	0507	0508	0509	0510	0512	0514	0516
	6"	0603	0604	0605	0606	0607	0608	0609	0610	0612	0614	0616
	7"	0703	0704	0705	0706	0707	0708	0709	0710	0712	0714	0716
	8"	0803	0804	0805	0806	0807	0808	0809	0810	0812	0814	0816
	9"	0903	0904	0905	0906	0907	0908	0909	0910	0912	0914	0916
	10"	1003	1004	1005	1006	1007	1008	1009	1010	1012	1014	1016
	12"	1203	1204	1205	1206	1207	1208	1209	1210	1212	1214	1216
	14"	1403	1404	1405	1406	1407	1408	1409	1410	1412	1414	1416
16"	1603	1604	1605	1606	1607	1608	1609	1610	1612	1614	1616	

Example:
8301-3200-0506



How To Order

8300 Series High Airflow Shielded Vents - Honeycomb

Example: Part number 8301-3200-0506 is an aluminum honeycomb 5" x 6" vent in a Style 1a frame with threaded inserts shielded with Twinseal. The sequential number specifies the height (A) and width (B) of the frame.

8 3 0 X - Z Z 0 0 - A A B B

8300
SERIES

SEQUENTIAL (AABB)
AA Vertical Height
BB Horizontal Width

HONEYCOMB MATERIAL (00)
00 Aluminum 1/8 Cell

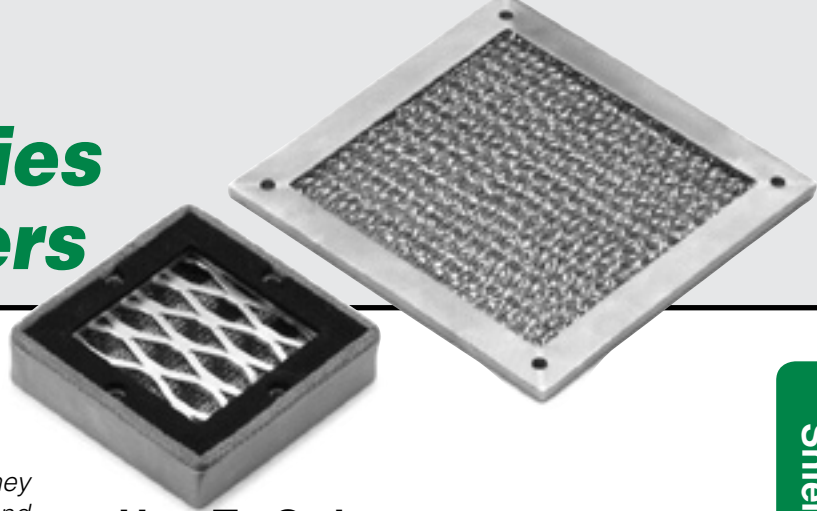
GASKET (ZZ)

- 00 No Gasket
- 31 Twinseal Neoprene Elastomer and T.C.S. Mesh
- 32 Twinseal Neoprene Elastomer and Monel Mesh
- 33 Twinseal Neoprene Elastomer and Aluminum Mesh
- 34 Twinseal Neoprene Elastomer and Stainless Steel Mesh

FRAME (0X)

- 01 Frame 01 Style 1a (Threaded Inserts 8-32)
- 02 Frame 01 Style 1b (Through Holes .204 DIA)

8500 & 8900 Series Shielded Air Filters



ALUMINUM MESH SHIELDED AIR FILTERS

Shielded filter and dust shields perform three functions: they attenuate EMI, they provide for a passage of cooling air, and they filter dust from the air flow. Designed for use in industrial environments at low to medium air flow rates, they can be cleaned either by immersion and agitation in a suitable solvent or by air blasting. The filter is comprised of three layers of corrugated aluminum mesh aligned to provide maximum dust trapping effectiveness and minimum resistance to airflow. The filter material is contained in a rigid "C" channel aluminum frame of all welded construction and protected on each side with an expanded metal grid.

Electronic filters and dust shields are manufactured to meet the needs of individual applications. For custom requirements, please supply a detailed drawing with the following information:

- Location and size or type of fixing holes or inserts (6/32 or 8/32 UNC, preferred). Use table and Fig. 1 on page 48 as a guide for hole/insert spacings.
- Outer dimensions of filter.
- Type of gasket required.

How To Order

8500 Series Shielded Air Filters - Aluminum Mesh

Example: Part number 8502-1060-0250 is a shielded air filter with Style Frame 02, T.C.S. wire mesh and 3-layer aluminum screen. **Unless standard, the sequential number is assigned by the factory.**

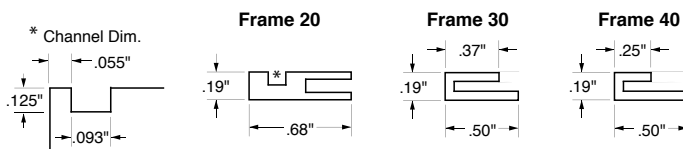
8 5	X X	-	Y Y	6 0	-	X X X X
8500 SERIES						SEQUENTIAL (XXXX)
						FILTER MEDIUM (60) 60 Aluminum 3-Layer Screen
						GASKET (YY) 00 None 10 Mesh (T.C.S.) 20 Mesh (Monel) 30 Mesh (Aluminum) 31 Twinseal With T.C.S. Mesh 32 Twinseal With Monel Mesh 33 Twinseal With Aluminum Mesh 34 Twinseal With Stainless Steel Mesh 90 Custom
						FRAME (XX) 00 Custom 02 04 01 03 *11 Frame 01 (Threaded Inserts 8-32) *21 Frame 01 (Through Holes .204 Dia.)

* Select Size for Sequential Number from Chart AABB on Page 50 for Frames 11 or 21 Only.

THIN SCREEN SHIELDED AIR FILTERS

Composed of expanded multi-layer aluminum, Thin Screen Shields combine the functions of EMI shielding with efficient dust filtering and ventilation. Thinner than electronic filter dust shields, they provide better dust extraction, but with greater restriction of air flow. They cost less than electronic dust shields and honeycomb.

Thin Screen "C" Channel Frames



Special Notes

Avoid locating holes or inserts in corners of frame.

When ordering please furnish a detailed drawing specifying all dimensions shown in Fig. 1 on page 48, including size and location of mounting holes, and type of gasket required.

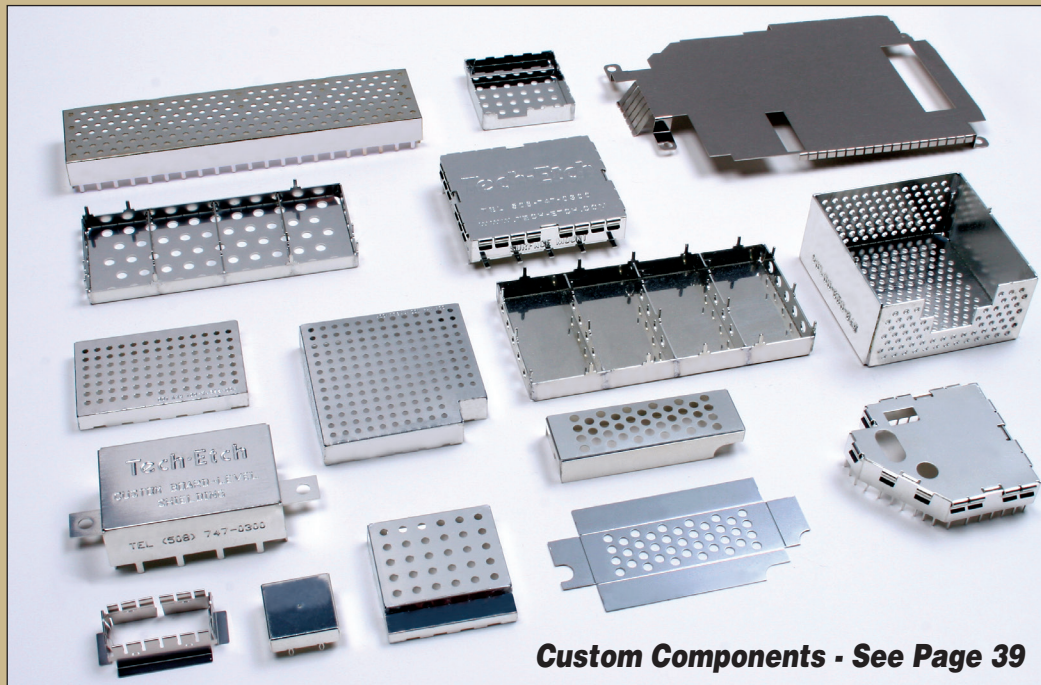
How To Order

8900 Series Shielded Air Filters - Thin Screen Shields

Example: Part number 8920-2070-0100 is Thin Shield Screen with Frame 20 and mesh gasketing. **Sequential number is assigned by the factory.** **Note: When ordering, furnish a detailed drawing specifying size, hole locations and frame design.**

8 9	X X	-	Y Y	7 0	-	X X X X
8900 SERIES						SEQUENTIAL (XXXX)
						FILTER MEDIUM (70) 70 Thin Screen
						GASKET (YY) 00 None 20 Mesh (Monel)
						FRAME (XX) 20 30 40

Standard and Custom Board Level Shielding



Custom Components - See Page 39

Standard and custom designs are manufactured using a photo chemical etching process making it possible to offer custom single piece and standard two-piece designs with no tooling charges. Interactive PDF Sales Drawings are available for download on the web site to simplify the design process for 1-piece and 2-piece standard board level shields.

For additional information visit www.tech-etch.com or contact one of our application engineers at 508-747-0300.

To avoid expensive form tooling, Tech-Etch uses photoetch fabrication to custom design beryllium copper and stainless steel shielding components in small quantities and also for prototypes before

high-volume requirements where progressive dies may be utilized. Custom expansion slot connector gaskets and board level shielding components are produced both quickly and economically.

BeCu Shielding in Rolls or Strips



All of the finger stock strips are available cut to any length and certain items are available in rolls up to 25 feet long.

Visit the web site to get our new **Shielding Product Guide** with side-by-side comparisons, plus current information on shielding products, precision parts and flexible circuits.

www.tech-etch.com



Other EMI Shielding Products

● Shielded Windows

Provide optical transmission and EMI shielding for enclosures requiring visual access to displays.

● Shieldwrap

Knitted mesh used to shield cable and to dissipate corona discharge at high-voltage splices.

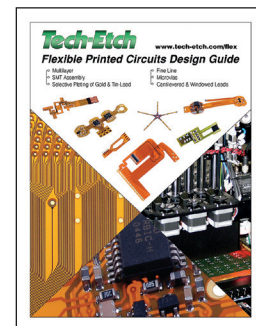
● Contact Rings

Contact rings can be fabricated in many variations from finger stock shielding. See page 24.

Call for **Data Sheets** on these products!



Call or visit our web site for Precision Parts and Flexible Circuits Capabilities Brochures



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