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How to Order

- Each profile has its own unique number.
- Strips may be supplied as a standard length or custom cut to any length, provided that length is a multiple of a full finger.
- The fingerstock is normally supplied as clean and bright finish, other plating options are available, and designated with a part number suffix.
- Clip-On Gaskets may be supplied with a retaining D-Lance, and designated with a suffix L.
- Clip on gaskets may have different flange thickness, designated by suffix A, B, C etc.
- Low force compression options can be supplied designated by the prefix LC.

Examples

ECP 645	(pressure sensitive soft finger).
ECP 645/100mm	(do cut to 100mm).
ECP 645/02	(clean + bright).
ECP 645/08	(tin plated).
ECP 643/L/08	(lanced + tin plated).
ECP 672A/L	(Flange thickness 1.17mm with lances).
LC/ECP 615	(produced in 0.05mm strip instead of 0.09mm thick material).
ECP 25 D10	(25 Way D-Sub Connector in Stainless Steel).
ECP 25 D12/08	(25 Way D-Sub Connector in tin plated Becu).

This catalogue relates to the material as supplied. The information contained herein is given in good faith, but no liability will be accepted by the Company in relation to same. The acquisition of additional information may necessitate revisions to parts or all of this Catalogue, and such information will be supplied as it becomes available.

As the company's products are used for a multiplicity of purposes, and as the Company has no control over the method of their application or use, the Company excludes all conditions or warranties, express or implied, by statute or otherwise, as to their products and/or their fitness for any particular purpose.

Any technical co-operation between the Company and the Customer is given for the Customer's assistance only and without liability on the part of the Company.

Material Specifications

Beryllium copper alloy 25 (CA172) is used in these applications for maximum spring properties of strength and fatigue resistance. Consult us for high temperature applications.

Chemical Composition

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

Physical Properties (heat treated)

Electrical conductivity (% IACS)	.22–25
Modulus of elasticity (GPa)	127.5

Mechanical Properties (heat treated)

Temper	½HT
Tensile strength (MPa)	1275 Min.
Yield strength .2% offset (MPa)	160 Min.

Manufacturing Tolerances (mm)

Pitch	±0.127
Length	±1.52
Spring Height	±0.51
Cut Length	±0.51

Finish

Finger Strips are stocked with a clean and bright finish. 02 finish standard

Other finishes available are:

Solderable unplated	.01
Clean and Bright (unsolderable)	.02
Gold	.03
Silver	.04
Tin Lead	.07
Bright Tin	.08
Bright Nickel	.09
Zinc/Clear Chromate	.15
Electroless Nickel	.18
Other	.00

For other requirements and specifications of these finishes, consult us.

Electrochemical Compatibility

To avoid galvanic action between contacting metals refer to the following 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

ANODIC

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

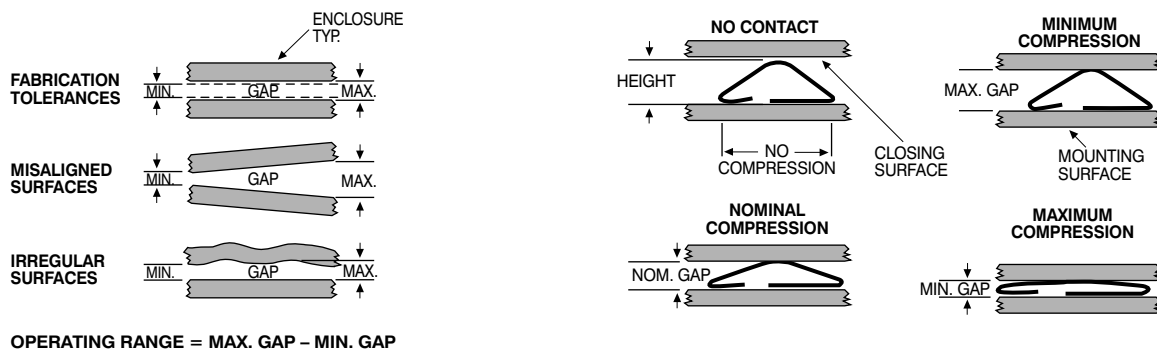
CATHODIC

Attenuation Management

The purpose of shielding is to occupy and thereby shield the gap that exists between two adjoining surfaces. In order to be effective the gasket must be able to compensate for gaps which exist due to fabrication tolerances, misalignment of surfaces or irregular surfaces. Proper compression management is essential to ensure effective EMI shielding, for example at the maximum gap the gasket should be compressed in excess of 50% if needed. Attenuation exceeding 100dB for most styles can therefore be achievable.

Compression Management

Fingerstock can be compressed to a maximum deflection of 90% of the free height of the spring. It is generally recommended that a minimum of 25% compression is used to enable good electrical contact. The compression forces which result through this range are given in the performance data for each spring. Many of the springs are available in low compression material (designated LC in the data) and are used in applications where the closure force between the mating surfaces needs to be minimised.



Application Guide

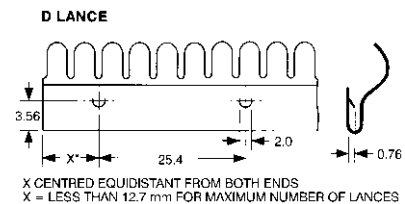
- The **Installation Options** guide (see page 5) details how the springs can be fitted to the panelwork.
- Select a spring which can give around 50% compression in sealing the gap between the surfaces for optimum performance. The choice of the largest gasket to meet this gap filling requirement generally ensures that minimum compression forces are obtained, the use of larger gaskets also allows for greater tolerance latitude in the panelwork construction. Selection for minimum compression force also minimises the chance of panel deformation and the subsequent increased cost and use of stiffening members.
- The springs naturally act in a sliding or shear mode on compression. This wiping action ensures that good electrical continuity is maintained, the harder spring surface cleans any build up of oxidation corrosion or contamination on the mating surface.
- The springs should be mounted in a manner which avoids damage to the fingers. When the spring is used in a sliding or shear application ensure that the wiping action occurs towards the free end of the spring. Gaskets mounted onto panels are better mounted on the demountable item, and in the case of a biscuit-tin lid design, mounted inside the lid. In door sealing applications, mounting on the frame is recommended.
- The material and plating should be chosen to minimise galvanic action between the gasket and mating surfaces. Refer to the **Electrochemical Compatibility** chart (see page 3) to select the most appropriate finish.

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.

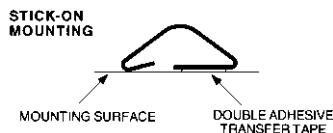
Clip-on Mounting

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 incorporated to enhance the holding force to the flange.



Stick-on Mounting

Pressure Sensitive Mounting provides double-sided pressure sensitive transfer tape for a fast, reliable installation. 3M Y-9469 transfer tape is standard and may be used at ambient temperatures from -55°C to 150°C. Apply only on a clean, oil-free surface, and allow a 24-hour cure time. Consult the factory for other adhesives.



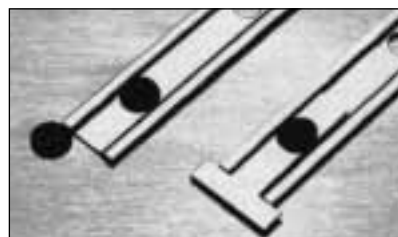
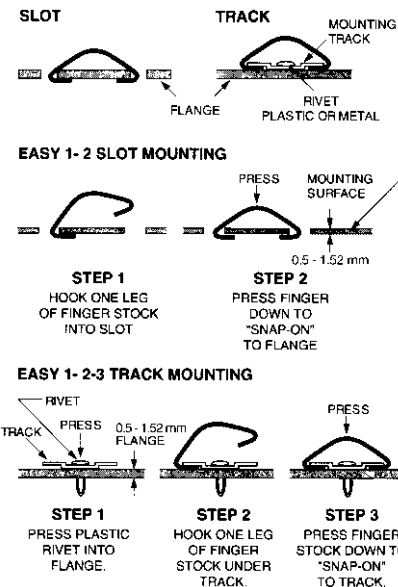
Special Mounting

Special Mounting provides for riveting, spot welding, soldering or use of double sided tape to mount shielding strip.

Snap-on Mounting

Snap-on shielding is ideal for bi-directional applications, such as sliding drawers, doors and rack mounted assemblies.

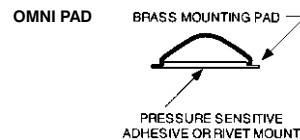
Snap-on shielding is easily mounted by snapping it into parallel slots or over a mounting track. The mounting track, sold separately, can be installed by screws, rivets, spot welding, or pressure-sensitive, double-adhesive transfer tape. Order "T" Retaining Caps (page 14) or Plastic Rivets for end stops for the shielding (See Figure 1 below and page 15). Stops can also be incorporated in sheet metal. Hole diameter to mount track should be 3.18mm. Specify Plastic Rivets (PR45 or PR60 on page 15), if preferred.



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

OMNI Mounting

OMNI Mounting offers snap-on shielding preassembled on brass pads. OMNI shielding comes in lengths up to 406mm and can be mounted as individual pads or in strips cut to multiples of the pad length. Double adhesive transfer tape or plastic rivets are available mounting options. The OMNI shielding configuration is also an excellent choice for bidirectional applications.



Plastic Rivets

Plastic rivets can be used to install Track, OMNI and as rivet stops to retain shielding on a track as shown in Figure 1 and in photo below. When used on a flange, the hole diameter for the rivet should be 3.18mm. Two rivets are available: PR45 and PR60 (page 15).



"T" Retaining Caps

"T" Retaining Caps (page 14) can also be used to hold shielding on the Track.

