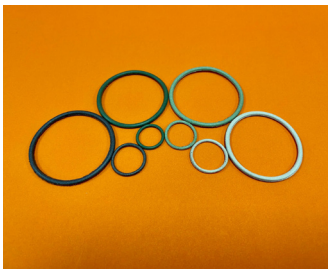

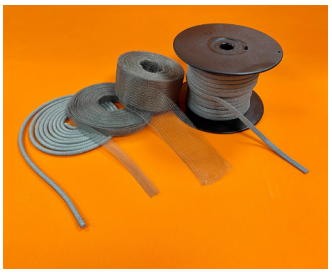

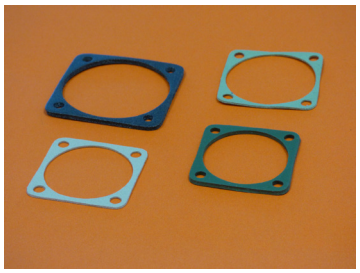

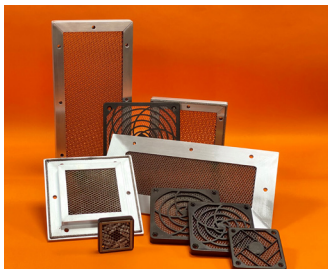

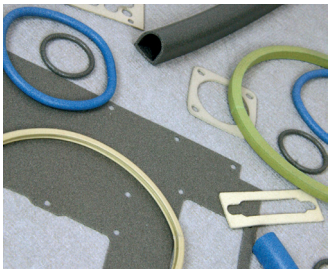

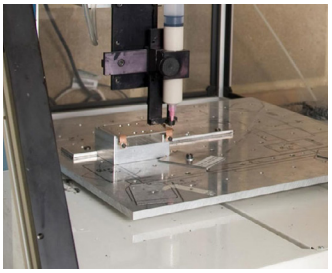

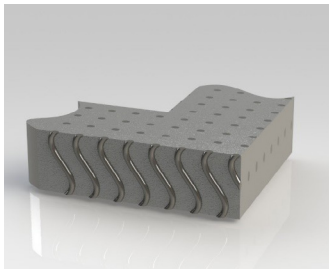

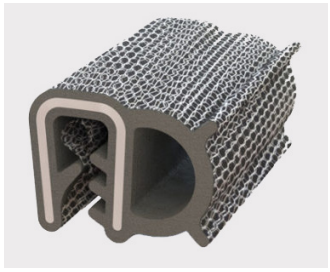

EMI SHIELDING SOLUTIONS CATALOG

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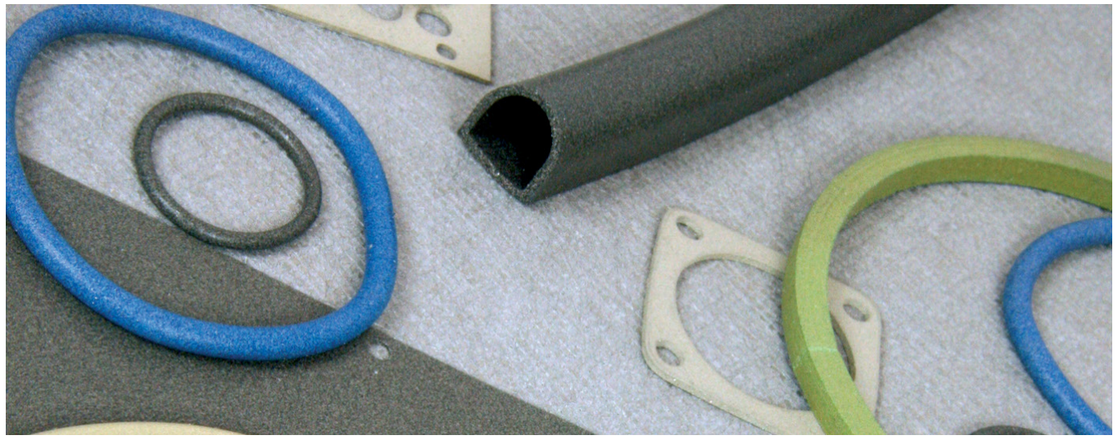
CONDUCTIVE ELASTOMERS

CONDUCTIVE ELASTOMERS: MATERIALS DATA



Product Overview

Conductive elastomers are fully cured silicones or fluorosilicone loaded with a variety of highly conductive particles providing superior EMI/RFI shielding performance combined with excellent environmental sealing. The various conductive fillers are designed to ensure galvanic compatibility whilst providing low contact resistance between mating surfaces. TE Connectivity.'s many years of manufacturing experience combined with quality control and compliance testing ensures our conductive elastomers are suitable for the most demanding situations, offering consistency time after time.

Application

- Industrial controls
- Instruments
- Military equipment
- Avionics
- Medical electronics
- Electronic equipment enclosures

Availability

- Highly conductive EMI/RFI gasket and environmental seal
- Extrusions
- Flat gaskets
- O-Rings
- Sheet
- Thickness from 0.5mm
- Wide temperature range -55˚C +160˚C
- Fluorosilicone for harsh environments: Fuel oils and solvents
- Choice of materials for galvanic compatibility
- Flame retardant to UL94 V-0 (SNG-FR moulded grade only)
- Conductive self adhesive backing on sheets

Material Selection

TE Connectivity. manufactures conductive elastomers using four standard highly conductive fillers in both silicone and fluorosilicone variants, all have slightly different attributes:

Conductive fillers available for silicone and fluorosilicone

- **Nickel Plated Graphite:** A high quality cost effective commercial material with increased use in the military markets. Easily extruded or moulded. SNG FR grade to UL94 V-0
- **Silver Plated Aluminium:** An excellent grade high performance material widely used for higher frequency applications in the commercial and military markets. Lighter in weight than some other materials
- **Nickel Plated Aluminium:** This material offers the best corrosion performance with aluminium metalwork and a high degree of shielding effectiveness with test data up to 40 GHz
- **Silver Plated Cooper:** This material offers excellent RFI/EMI shielding performance across the frenquency spectrum, but comes at a higher price and with increased weight
- **Nickel:** This product has largely been replaced by Nickel Graphite but is still widely used in military and aerospace applications. Fluorosilicone has better aging properties than the silicone. A good performer at lower frequencies but also heavier than some other materials

Vinyl Methyl Silicone (VMQ)

Silicone rubber is used because the end use requires a material that retains its elastomeric properties over a very wide range of temperatures and does not degrade due to the presence of oxygen and ozone.

Silicone elastomers do have weaknesses in their properties and behaviour. In comparison with other elastomers their tensile, tear and abrasion properties are significantly poorer, however, they do not decay as the temperature is increased and above 150˚C they become on the whole better.
The swelling and chemical resistance of silicones is comparable to those of Chlorophrene rubber, they are not affected by aliphatic oils however they swell in napthenic and are attacked by hot aromatic oils.

Silicones main weakness is to hydrolytic attack and decomposition especially to steam between 120˚C and 140°C, they are also susceptible to attack by acids and alkalis.

Fluorosilicone (FVMQ)

Fluorosilicone is used because it overcomes the formers chemical resistance and swelling weaknesses whilst retaining on the whole the excellent high temperature properties. FVMQ however still suffers from attack by high temperature steam and hydrolysis by both acids and alkalis.

Production Capabilities

TE Connectivity.'s extensive manufacturing facilities combined with our development team, Quality control and experienced manufacturing personnel enable us to be one of Europe's leading manufacturers of electrically conductive elastomers.

Here at TE Connectivity., we develop, test, compound,

mould, extrude and vulcanize conductive elastomers. This enables us to be flexible in our approach towards customer satisfaction.

In addition to our standard range, we can develop and compound new grades of materials at our facility in the UK to meet customer specific requirements, subject to economic minimum quantities.

Materials

Material	Material Code
Silicone Nickel Graphite	SNG
Fluorosilicone Nickel Graphite	FNG
Silicone Silver Aluminium 65 Shore A	SSA
Fluorosilicone Silver Plated Aluminium 70 Shore A	FSA(70)
Silicone Nickel Aluminium	SNA
Fluorosilicone Nickel Aluminium	FNA

Fire retardant materials

Silicone nickel graphite flame retardant material SNG-FR is tested and approved by Underwriters Laboratories to UL94 V-0 file number E344902 (moulded grade only).

Test Results

Listed below are the test results of TE Connectivity.'s electrically conductive silicone elastomer materials. Some tests are performed in house and others by external laboratories all using calibrated equipment, testing to the standard specified in MIL-DTL-83528. TE Connectivity. offers the performance data and methods of testing to MIL-DTL-83528 for comparison only. All of TE Connectivity.'s test certificates and reports are available upon request. The results were obtained in laboratory conditions and should be used as a guide only. Customer hardware and many other factors are beyond our control. Therefore customers should perform their own tests to ensure suitability of the product for the desired performance.

TE Connectivity. recognises the importance of quality and consistency in conductive elastomer seal manufacture, with this in mind;

- We specify, batch control and trace all raw materials
- Control compounding with robust procedures and batch test every mix with calibrated test equipment to ensure batch to batch consistency and conformance to our published data sheets
- Use certified and approved outside test laboratories
- Batch control and trace all manufacturing including materials, tools, equipment and operators

The controls are embedded into our accredited management system that we have held since 1988.

All the above is overseen by our quality assurance department and our in-house qualified polymer engineering/chemist ensuring proven consistency and traceable results.

Material Specific Data Table						
Test Specification / Material Code	**SNG**	**SSA**	**FNG**	**FSA**	**SNA**	**FNA**
MIL-DTL-83528 Material Type	-	Type B	-	Type D	-	-
Recommended Operating Temperature Range (oC)	55 to 160	-55 to 160	-55 to 160	-55 to 160	-55 to 125	-55 to 125
Specific Gravity (tolerance ± 13%) (ASTM D792)	2.000	2.000	2.200	2.000	2.000	2.300
Shore A Hardness Units (tolerance ± 7, unless otherwise stated) (ASTM D2240)	65	65	65	70	70	70
Minimum Tensile Strength (ASTM D412) (lbs/in2 / MPa)	200 / 1.379	200 / 1.379	200 / 1.379	180 / 1.241	150 / 1.034	150 / 1.034
Minimum Elongation @ Break (%) (ASTM D412)	150	100	150	60	150	150
Maximum Compression Set (%) (ASTM D395 – 70hrs @ 100OC)	25	32	25	30	20	20
Minimum Tear Strength ASTM D624 (lbf/in / N/mm)	50 / 8.756	30 / 5.254	40 / 7.005	35 / 6.1294	60 / 10.507	30 / 5.254
Maximum Volume Resistivity (as received) MIL-DTL-83528 (pressure probe method) (Ω.cm)	0.05	0.008	0.05	0.012	0.100	0.100
Minimum Shielding Effectiveness @ Specified Frequency (MIL-DTL-83528) dB reduction	-	-	-	-	-	
20 MHz	106	108	106	106	123	120
40 MHz	105	106	105	105	128	125
60 MHz	106	109	105	107	143	142
80 MHz	114	118	110	111	142	*145
100 MHz	111	109	108	106	136	135
200 MHz	116	117	114	106	132	135
400 MHz	119	123	116	117	127	137
600 MHz	112	114	106	106	129	130
800 MHz	114	120	116	120	128	130
1 GHz	118	114	108	112	126	132
2 GHz	111	101	100	106	135	134
4 GHz	100	107	104	112	136	133
6 GHz	104	105	104	97	138	130
8 GHz	110	105	106	114	136	134
10 GHz	110	102	105	112	134	126
15 GHz	Not Tested	Not Tested	Not Tested	Not Tested	*130	122
20 GHz	Not Tested	Not Tested	Not Tested	Not Tested	*120	*120
25 GHz	Not Tested	Not Tested	Not Tested	Not Tested	*120	*120
30 GHz	Not Tested	Not Tested	Not Tested	Not Tested	*120	*120
35 GHz	Not Tested	Not Tested	Not Tested	Not Tested	*120	*120
40 GHz	Not Tested	Not Tested	Not Tested	Not Tested	*120	*120

Measurement at this frequency meets or exceeds the dynamic range of the experiment (beyond the Limits Of Detection), therefore Shielding Effectiveness is reported as having met this dynamic range.

Properties of elastomers that can be measured and how they impact on selection of the appropriate material for gasket/sealing purposes

Hardness

Hardness is a measure of the degree of indentation when an indenter of known geometry is placed on the elastomeric surface under a known constant force for a fixed time. The different scales used Shore A and IRHD are defined by the form of the indenter, applied load and time of reading after indenter application. In a standard elastomer there is reasonable agreement between observed hardness and Young's Modulus (E). In the case of conductive elastomers this relationship is not so clear cut since the elastomer acts more as a binder for the filler and the hardness appears to have a rule of mixtures response.

Tensile strength and elongation at break

Tensile strength and elongation at break are obtained from the same standard dumbbell shaped test-piece punched from a moulded sheet of rubber of known thickness. By use of tensile test equipment fitted with an extensometer a stress strain response curve can be obtained and a judgement of the stresses and strains that can be made on the material during service made.

Tear

The tearing properties of a material are obtained using tensile test equipment and a standard test piece of known dimensions. Tests are carried out in tension and the results reported in terms of load required per distance moved by the tear tip.

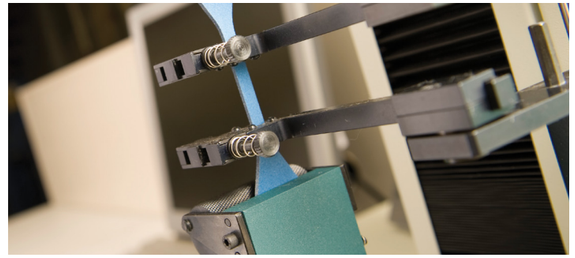
Compression set

Compression set (or more correctly permanent set after compression to a fixed strain) should not be confused with either creep or stress relaxation. The test was originally conceived as a measure of state of cure. The test basically involves compressing a cylinder of material to a fixed strain and leaving it for a known temperature for a fixed time. The compression is removed, the cylinder allowed to recover over a fixed time and the height re-measured. The value recorded being the percentage difference according to the equation below;

$$\text{Compression set at Constant Strain} = \frac{to - tr}{to - ts} \times 100$$

Where	
to	is the original thickness
tr	is the thickness after recovery
ts	is the deflection applied (thickness of shim)

Hence, the test as originally conceived would be carried out on test pieces cured for varying times at a fixed temperature and the correct cure determined from where the compression set value was found to be a minimum. Although the original purpose of the test has been superseded by modern rheometers the test continues to be used. The reason for this being the belief that the test gives an indication of creep which can be seen below is not strictly true. Since the test is an amalgamation of that used to assess creep and stress relaxation.



Creep also known as cold flow

Creep is defined as the change in strain with time whilst the elastomer is held under a constant stress. This stress can take the form of compression, tension and/or shear.

In terms of how creep applies to a seal or gasket, this is dependent on whether it is constrained or non-constrained. In the non-constrained environment the strain within the elastomer will increase with time until in theory the stress within the elastomer reaches a minimum. The elastomer seal/gasket will compress and spread out. In the constrained environment the seal/gasket will conform to the groove allowed and the creep arrested.

Stress relaxation

Stress relaxation is defined as the change in stress with time whilst the elastomer is held under a constant strain. Consider that you have a seal that during installation is compressed by 10% of its original thickness. To obtain this 10% compression requires 100 MPa, and you can consider that the elastomer is exerting 100 MPa in return and the seal would be able to retain internal and external forces of 100 MPa. However, with time and ageing the stress exerted by the elastomeric seal can decay i.e. it may only exert 90 MPa yet still be compressed by 10%.

The paragraph above describes the reality of Stress Relaxation in compression, the other two modes of tension or shear can also be measured.

Certain schools of thought recommend that stress relaxation issues can be overcome by increasing the initial compression the seal/gasket is taken to by 25% in the expectation that stress relaxation will occur and the operational force will be that required. This approach obviously assumes that the seal/gasket will be able to withstand the extra strain and the seal/gasket behaviour to the extra stress remains the same. Consideration must also be given to whether it is retained in a groove or free to take up a natural form on deflection.

Compression deflection

This test is carried out using a disc of the gasket/seal material of a known thickness and diameter to which is applied a load equivalent to 100 psi and the deflection measured.

Accelerated ageing tests

In general any of the above tests can be carried out on test samples either aged or cut from test sheets which have been exposed to air ageing at an elevated temperature. Such tests may give an indication of how the material will perform in the long term in the service environment.

Standard Tests Specific to Conductive Elastomers

Volume resistivity

In this test a sample of the conductive elastomer whose dimensions are known is put under compression to a known strain. The difference between the known applied current is compared to that flowing through the elastomer and the resistivity of the elastomer.

Volume resistivity after extension/break

This test is the same as that for volume resistivity except that the sample is punched from the central strip of a dumbbell that has been stretched to break and then allowed to recover for thirty minutes.

This test gives an indication of the behaviour of the material if it is stretched during installation or is re-used during servicing.

Dynamic volume resistivity

In this test the variation in the volume resistivity is measured whilst a sample of known dimensions is put under a fixed load. The load is then oscillated around this fixed point by a known amount over a range of frequencies and the volume resistivity recorded.

The purpose of this test is to give an indication as to how the seal/gasket will perform in service when the vibrations from equipment operations are imposed upon it.

Conductive Silicone & Fluorosilicone Elastomers – Product Handling & Storage

Conductive elastomer products are expected to provide a service life of many years. However, if the product is to be stored, certain factors may have a detrimental effect. TE Connectivity recommends that the following precautions are carefully observed to ensure product longevity:

Handling

These materials should not be subjected to stretching in either storage or installation otherwise the conductive particles may disperse in the rubber, resulting in degradation of the shielding performance. In addition materials should be handled using cotton gloves to prevent surface contamination. Extra care must be used when fitting gaskets into channels, especially O-Rings. The product should be eased into the final groove shape from each end or opposite diagonals, working slowly inwards or round the outside. It must not be placed in at one end and simply pushed in along the length, this will stretch the gasket and leave excess material. If in doubt please contact us for our recommendations.

Storage temperature

It is recommended that the product be stored at normal ambient temperatures.

Exposure to light & UV

Exposure to any UV source (i.e artificial or natural light) should be avoided if possible. It should be kept stored in light proof, sulphur free packaging.

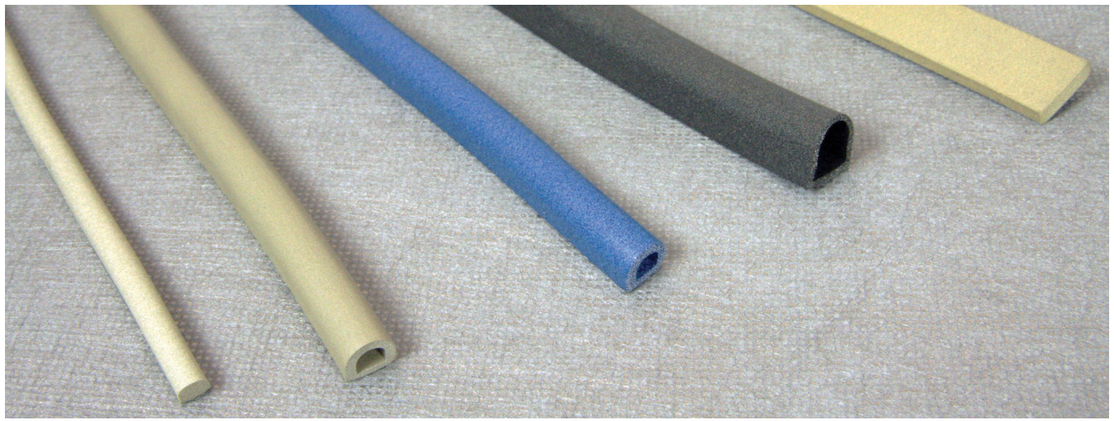
Method of storage

The material must be stored without any stretching or crushing. It is best kept in light proof, sulphur free polythene bags or light proof, sulphur free boxes.

Contact with other materials

The product should not be allowed to come into contact with solvents, oils & greases, PVC, any material containing sulphur, dissimilar rubbers or metal containers.

CONDUCTIVE ELASTOMERS: EXTRUSIONS



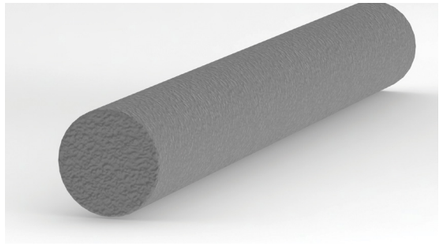
Product Overview

TE Connectivity manufactures a wide variety of profiles from our standard tooling. We are also able to produce to your exact requirement with minimal tooling cost. Extruded profiles are available in continuous, cut lengths or fabricated to your requirements, such as rectangles by vulcanizing the joints. This process uses the same conductive polymer compound. Ensuring complete electrical conductivity is maintained across the joints. Please see o-ring section.

Design Considerations

- When selecting a profile it is important to give attention to the mechanical design of your product. Round and D section seals should ideally be mounted in a suitably sized channel or groove.
- If the gasket is to fit in a groove. It is important that the gasket size chosen does not overfill the groove, when using solid sections you should ensure that the groove cross sectional area is a minimum of 5% greater than the proposed gasket cross section. See grove design data.
- Attention must also be paid to the closing force required to compress the gasket to the working height required.
- Self-adhesive backing can be supplied on some flat profiles and usually only partially covers an area of the extrusion. Available as conductive (CSAB) or non conductive (SAB). This adhesive is an assembly aid only.

Technical Specifications: Round



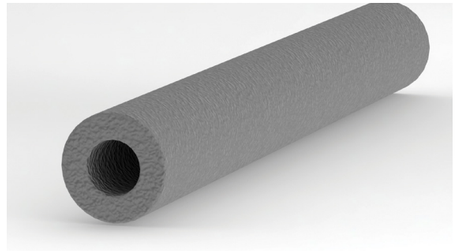
Profile: 1201

Part Number	Description
2418192-1	Ni/C Silicone Cord 1.0mm
2418091-1	Ni/C Silicone Cord 1.6mm
2418092-1	Ni/C Silicone Cord 1.8mm
2418093-1	Ni/C Silicone Cord 2.0mm
2418094-1	Ag/Al Silicone Cord 1.0mm
2418095-1	Ag/Al Silicone Cord 1.6mm
2418096-1	Ag/Al Silicone Cord 1.8mm
2418193-1	Ag/Al Silicone Cord 2.0mm

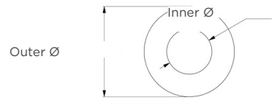
Part Number	Description
2418116-1	Ni/C Fsilicone Cord 1.0mm
2418210-1	Ni/C Fsilicone Cord 1.6mm
2418211-1	Ni/C Fsilicone Cord 1.8mm
2418212-1	Ni/C Fsilicone Cord 2.0mm
2418121-1	Ag/Al Fsilicone Cord 1.0mm
2418213-1	Ag/Al Fsilicone Cord 1.6mm
2418214-1	Ag/Al Fsilicone Cord 1.8mm
2418215-1	Ag/Al Fsilicone Cord 2.0mm

Part Number	Description
2452640-1	SNA Cord 1.0mm x 10m L
2452641-1	SNA Cord 1.6mm x 10m L
2452642-1	SNA Cord 1.8mm x 10m L
2452643-1	SNA Cord 2.0mm x 10m L
2452653-1	SNA Cord 1.0mm x 1m L
2452654-1	SNA Cord 1.6mm x 1m L
2452655-1	SNA Cord 1.8mm x 1m L
2452656-1	SNA Cord 2.0mm x 1m L
2452663-1	FNA Cord 1.0mm x 10m L
2452664-1	FNA Cord 1.6mm x 10m L
2452665-1	FNA Cord 1.8mm x 10m L
2452666-1	FNA Cord 2.0mm x 10m L
2452676-1	FNA Cord 1.0mm x 1m L
2452677-1	FNA Cord 1.6mm x 1m L
2452678-1	FNA Cord 1.8mm x 1m L
2452679-1	FNA Cord 2.0mm x 1m L

Technical Specifications: Tubular



Profile: 1202

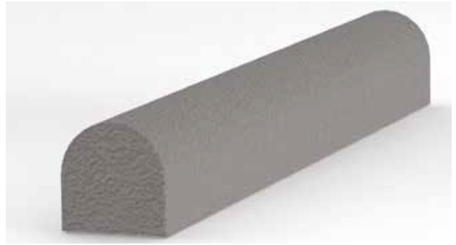


Part Number	Description
2418098-1	Ni/C Silicone Tube 1.6mm OD x 0.5mm ID
2418194-1	Ni/C Silicone Tube 2.6mm OD x 1.1mm ID
2418195-1	Ni/C Silicone Tube 3.2mm OD x 1.1mm ID
2418196-1	Ag/Al Silicone Tube 1.6mm OD x 0.5mm ID
2418197-1	Ag/Al Silicone Tube 2.6mm OD x 1.1mm ID
2418198-1	Ag/Al Silicone Tube 3.2mm OD x 1.1mm ID

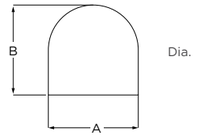
Part Number	Description
2418216-1	Ni/C Fsilicone Tube 1.6mm OD x 0.5mm ID
2418217-1	Ni/C Fsilicone Tube 2.6mm OD x 1.1mm ID
2418218-1	Ni/C Fsilicone Tube 3.2mm OD x 1.1mm ID
2418219-1	Ag/Al Fsilicone Tube 1.6mm OD x 0.5mm ID
2418220-1	Ag/Al Fsilicone Tube 2.6mm OD x 1.1mm ID
2418221-1	Ag/Al Fsilicone Tube 3.2mm OD x 1.1mm ID

Part Number	Description
2452644-1	SNA Tube 1.6mm OD x 0.5mm ID x 10m L
2452645-1	SNA Tube 2.6mm OD x 1.1mm ID x 10m L
2452646-1	SNA Tube 3.2mm OD x 1.1mm ID x 10m L
2452657-1	SNA Tube 1.6mm OD x 0.5mm ID x 1m L
2452658-1	SNA Tube 2.6mm OD x 1.1mm ID x 1m L
2452659-1	SNA Tube 3.2mm OD x 1.1mm ID x 1m L
2452667-1	FNA Tube 1.6mm OD x 0.5mm ID x 10m L
2452668-1	FNA Tube 2.6mm OD x 1.1mm ID x 10m L
2452669-1	FNA Tube 3.2mm OD x 1.1mm ID x 10m L
2452680-1	FNA Tube 1.6mm OD x 0.5mm ID x 1m L
2452681-1	FNA Tube 2.6mm OD x 1.1mm ID x 1m L
2452682-1	FNA Tube 3.2mm OD x 1.1mm ID x 1m L

Technical Specifications: Solid D



Profile: 1203

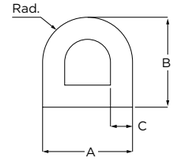


Width A	Height B	Part Number
1.40mm	1.63mm	1203-XXX-0014-0016
1.57mm	1.73mm	1203-XXX-0016-0017
2.39mm	1.98mm	1203-XXX-0024-0020
1.98mm	2.26mm	1203-XXX-0020-0023
1.57mm	2.54mm	1203-XXX-0016-0025
3.81mm	2.79mm	1203-XXX-0038-0028
3.00mm	3.96mm	1203-XXX-0030-0040
4.52mm	4.45mm	1203-XXX-0045-0045
3.96mm	3.96mm	1203-XXX-0040-0040

How to order
1203-XXX-XXXX-XXXX
1203- Material-Width A-Height B
Example:
1203-SNG-0014-0016 (round up dimension value)

Technical Specifications: Hollow D

Profile: 1204

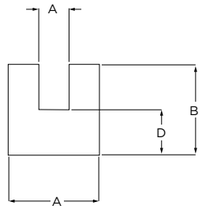


Width A	Height B	Wall C	Radii R	Part Number
3.96mm	3.96mm	1.14mm	1.98mm	1204-XXX-0040-0040
4.75mm	4.72mm	1.27mm	2.36mm	1204-XXX-0048-0048
7.92mm	7.92mm	1.27mm	3.96mm	1204-XXX-0080-0080
7.92mm	7.92mm	1.57mm	3.96mm	1204-XXX-0081-0081
12.37mm	8.23mm	2.03mm	6.20mm	1204-XXX-0124-0080
6.35mm	6.35mm	1.65mm	3.18mm	1204-XXX-0064-0064

How to order
1204-XXX-XXXX-XXXX
1204- Material-Width A-Height B
Example:
1204-SNG-0040-0040 (round up dimension value)

Technical Specifications: Channel

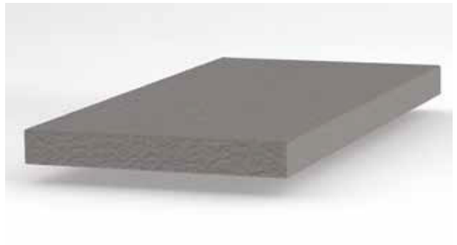
Profile: 1206



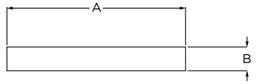
Dim A	Dim B	Dim C	Dim D	Part Number
2.54mm	2.54mm	0.86mm	0.84mm	1206-XXX-0025-0025
3.20mm	2.79mm	0.66mm	1.27mm	1206-XXX-0032-0028
3.20mm	5.72mm	0.51mm	1.91mm	1206-XXX-0032-0058
3.96mm	3.94mm	1.57mm	1.19mm	1206-XXX-0040-0040
4.45mm	3.96mm	1.19mm	1.91mm	1206-XXX-0045-0040
8.31mm	5.94mm	1.57mm	2.92mm	1206-XXX-0080-0060

How to order
1206-XXX-XXXX-XXXX
1206- Material-Dim A-Dim B
Example:
1206-SNG-0025-0025 (round up dimension value)

Technical Specifications: Flat Strip



Profile: 1207



Dim A	Dim B	Part Number
1.60mm	1.07mm	1207-XXX-0016-0010
2.41mm	1.57mm	1207-XXX-0024-0016
3.05mm	1.91mm	1207-XXX-0030-0020
3.18mm	1.57mm	1207-XXX-0032-0016
3.96mm	1.57mm	1207-XXX-0040-0016
6.35mm	1.57mm	1207-XXX-0064-0016
12.70mm	1.91mm	1207-XXX-0127-0020
12.70mm	3.18mm	1207-XXX-0127-0032
12.70mm	4.78mm	1207-XXX-0127-0048
19.05mm	1.57mm	1207-XXX-0190-0016
22.35mm	1.57mm	1207-XXX-0224-0016
25.40mm	6.35mm	1207-XXX-0254-0064

How to order
1207-XXX-XXXX-XXXX
1207- Material-Dim A-Diam B
Example:
1207-SNG-00416-0010 (round up dimension value)

Gasket Groove Sizes

Cord Diametermm	15% Compression		20% Compression	
	Depth	Width	Depth	Width
1.00mm	0.85mm	1.10mm	0.80mm	1.15mm
1.10mm	0.94mm	1.21mm	0.88mm	1.27mm
1.20mm	1.02mm	1.32mm	0.96mm	1.38mm
1.30mm	1.11mm	1.43mm	1.04mm	1.50mm
1.40mm	1.19mm	1.54mm	1.12mm	1.61mm
1.50mm	1.28mm	1.65mm	1.20mm	1.73mm
1.60mm	1.36mm	1.76mm	1.28mm	1.84mm
1.80mm	1.53mm	1.98mm	1.44mm	2.07mm
2.00mm	1.70mm	2.20mm	1.60mm	2.30mm
2.20mm	1.87mm	2.42mm	1.76mm	2.53mm
2.40mm	2.04mm	2.64mm	1.92mm	2.76mm
2.50mm	2.13mm	2.75mm	2.00mm	2.88mm
2.60mm	2.21mm	2.86mm	2.08mm	2.99mm
2.80mm	2.38mm	3.08mm	2.24mm	3.22mm
3.00mm	2.55mm	3.30mm	2.40mm	3.45mm
3.20mm	2.72mm	3.52mm	2.56mm	3.68mm
3.50mm	2.98mm	3.85mm	2.80mm	4.03mm
3.80mm	3.23mm	4.18mm	3.04mm	4.37mm
4.00mm	3.40mm	4.40mm	3.20mm	4.60mm
4.30mm	3.66mm	4.73mm	3.44mm	4.95mm
4.50mm	3.83mm	4.95mm	3.60mm	5.18mm
4.80mm	4.08mm	5.28mm	3.84mm	5.52mm
5.00mm	4.25mm	5.50mm	4.00mm	5.75mm
5.30mm	4.51mm	5.83mm	4.24mm	6.10mm
5.50mm	4.68mm	6.05mm	4.40mm	6.33mm
5.80mm	4.93mm	6.38mm	4.64mm	6.67mm
6.00mm	5.10mm	6.60mm	4.80mm	6.90mm
6.30mm	5.36mm	6.93mm	5.04mm	7.25mm
6.50mm	5.53mm	7.15mm	5.20mm	7.48mm

The above cross sectional area groove sizes allow for the free movement of the gasket when being compressed. This method of calculation ensures that the volume of the gasket does not exceed that of the groove when fully compressed, resulting in groove overfill. This also minimises the amount of compression force required to achieve a good RFI/EMI seal.

It is important to note that when designing in an EMC gasket, that the principles of o-ring design for pressure sealing do not apply. The groove depth dimension is the most important, as it is this that limits the gasket compression. The groove width has no maximum dimension and is only there for gasket location purposes. Tighter groove dimensions using volume calculations may be employed to enhance environmental sealing. However this will increase the compression forces required.

The above calculations are based on reducing the depth of the groove by a given compression % and increasing the width by the same amount less 5% e.g. 20% reduction in depth 15% increase in width.

When choosing a tube section as a gasket it is recommended that consideration be given to the lower compression forces, making sure that there is enough resilience in the gasket to ensure a good RFI/EMI seal. In these cases it is sometimes better to use the volume groove size calculation, with the groove side walls offering support for the tube.

Because there are so many variables with tube cross sections it is difficult to give precise information on this subject.
TE Connectivity. is able to supply samples for evaluation purposes.

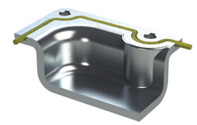
Compression %	10	15	20	25
Cord Diameter (mm)	Force per 100mm			
1.0	17N	24N	35N	47N
2.0	26N	43N	68N	94N
3.0	37N	66N	110N	154N
4.0	66N	105N	146N	196N

Tolerances

- Below 5.08mm ± 0.13mm
- 5.08mm to 8.86mm ± 0.20mm
- Above 8.86mm to 12.70mm ± 0.25mm
- Above 12.70mm ± 3%

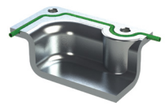
Compressed Gasket

Internal Bend Radius: Casting with Solid Cord Gasket



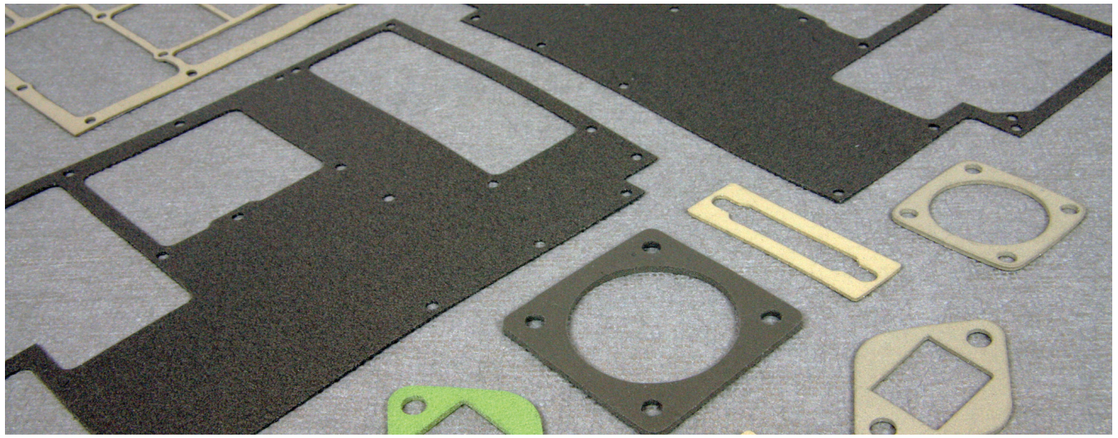
The minimum internal bend radius of a solid cord gasket is 1.5 x cross section of cord.

Internal Bend Radius: Casting with Tube Gasket



Minimum internal bend radius of a tube gasket where the id of the tube is no greater than 30% of the cross section is 2.5 x cross section of tube.

CONDUCTIVE ELASTOMERS: SHEET & FLAT GASKETS



Product Overview

Flat gaskets are produced from moulded sheet using economic rule dies. Larger gaskets can be cut from moulded or fabricated picture frames. This option has the advantage of saving material and allows larger gaskets to be produced economically. Fabricated frames use either extruded or moulded flat section that is joined by vulcanizing the polymer. The same conductive polymer compound is used to vulcanize the joints ensuring complete electrical conductivity is maintained across the joint .

This process has allowed TE Connectivity. to produce gaskets up to 2 meters' long, with the same mechanical and electrical integrity as is found in a single part gasket cut from sheet. This method of manufacture often offers cost savings over cutting from sheet with subsequent loss of waste material.

Our in-house production facilities are suitable for prototype, short and medium production runs, up to commercial quantities.

Design Considerations

- It is important that this material is not over-compressed. If the design of the equipment does not allow for any mechanical method of preventing over-compression, the gasket should be fitted with built-in compression limiters, either metal stops fitted to the gasket, or metal collars fitted into each fixing hole.
- The material is not suitable in sliding applications.
- Recommended compression: 10% to 20%.
- Self-adhesive backing (conductive or non-conductive) is offered as an assembly aid only.
- Fluorosilicone: self-adhesive backing is not recommended for use with this type of elastomer.
- Minimum material width should not be less than 2mm or at least the material thickness in any part of the gasket
  If this cannot be achieved around fixing holes consider using a slot. Particular attention is required if specifying compression collars in holes.
- Consideration must be given to compression forces, hole centres, size and number of fixings and rigidity of mating flanges.
- Integral compression stops or collars should be considered to limit over compression if external controls cannot be applied.
  Recommended minimum sheet thickness for integral limits is 1.5mm.

Materials

Material	Material Code
Silicone Nickel Graphite	SNG
Fluorosilicone Nickel Graphite	FNG
Silicone Nickel Graphite Flame Retardant UL94 VO	SNG-FR
Silicone Silver Aluminium 65 Shore A	SSA
Fluorosilicone Silver Plated Aluminium 70 Shore A	FSA(70)
Silicone Silver Aluminium 65 Shore A Blue	SSA(65B)
Silicone Silver Copper	SSC
Fluorosilicone Silver Copper	FSC
Silicone Nickel Aluminium	SNA
Fluorosiliocne Nickel Aluminium	FNA

Standard Sheet Sizes

- 150mm x 150mm (code 1210)
- 300mm x 300mm (code 1212)

Standard Thickness

- 0.8mm
- 1.2mm
- 1.6mm

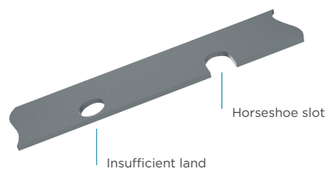
Other thicknesses and sheet sizes are available subject to minimum quantities.

Dimensional Tolerances

- Thickness:
  ± 0.15mm up to 2mm
  ± 0.25mm above 2mm
- Linear ± 0.8mm
- Hole Centre's ± 0.4mm

Minimum Land

Horseshoe



Part Number	Description
2418199-1	Ni/C Silicone Sheet 150mm sq x 0.8mm
2418105-1	Ni/C Silicone Sheet 150mm sq x 0.8mm
2418200-1	Ni/C Silicone Sheet 150mm sq x 1.6mm
2418201-1	Ag/Al Silicone Sheet 150mm sq x 0.8mm
2418202-1	Ag/Al Silicone Sheet 150mm sq x 1.2mm
2418203-1	Ag/Al Silicone Sheet 150mm sq x 1.6mm
2418204-1	Ni/C Silicone Sheet 300mm sq x 0.8mm
2418205-1	Ni/C Silicone Sheet 300mm sq x 1.2mm
2418206-1	Ni/C Silicone Sheet 300mm sq x 1.6mm
2418207-1	Ag/Al Silicone Sheet 300mm sq x 0.8mm
2418208-1	Ag/Al Silicone Sheet 300mm sq x 1.2mm
2418209-1	Ag/Al Silicone Sheet 300mm sq x 1.6m

Part Number	Description
2418222-1	Ni/C Fsilicone Sheet 150mm sq x 0.8mm
2418223-1	Ni/C Fsilicone Sheet 150mm sq x 1.2mm
2418224-1	Ni/C Fsilicone Sheet 150mm sq x 1.6mm
2418225-1	Ag/Al Fsilicone Sheet 150mm sq x 0.8mm
2418226-1	Ag/Al Fsilicone Sheet 150mm sq x 1.2mm
2418136-1	Ag/Al Fsilicone Sheet 150mm sq x 1.6mm
2418137-1	Ni/C Fsilicone Sheet 300mm sq x 0.8mm
2418138-1	Ni/C Fsilicone Sheet 300mm sq x 1.2mm
2418227-1	Ni/C Fsilicone Sheet 300mm sq x 1.6mm
2418228-1	Ag/Al Fsilicone Sheet 300mm sq x 0.8mm
2418142-1	Ag/Al Fsilicone Sheet 300mm sq x 1.2mm
2418143-1	Ag/Al Fsilicone Sheet 300mm sq x 1.6mm

Part Number	Description
2452647-1	SNA Sheet 150mm sq x 0.8mm
2452648-1	SNA Sheet 150mm sq x 1.2mm
2452649-1	SNA Sheet 150mm sq x 1.6mm
2452650-1	SNA Sheet 300mm sq x 0.8mm
2452651-1	SNA Sheet 300mm sq x 1.2mm
2452652-1	SNA Sheet 300mm sq x 1.6mm
2452660-1	SNA Sheet 50mm sq x 0.8mm sample
2452661-1	SNA Sheet 50mm sq x 1.2mm sample
2452662-1	SNA Sheet 50mm sq x 1.6mm sample
2452670-1	FNA Sheet 150mm sq x 0.8mm
2452671-1	FNA Sheet 150mm sq x 1.2mm
2452672-1	FNA Sheet 150mm sq x 1.6mm
2352673-1	FNA Sheet 300mm sq x 0.8mm
2452674-1	FNA Sheet 300mm sq x 1.2mm
2452675-1	FNA Sheet 300mm sq x 1.6mm
2452683-1	FNA Sheet 50mm sq x 0.8mm sample
2452684-1	FNA Sheet 50mm sq x 1.2mm sample
2452685-1	FNA Sheet 50mm sq x 1.6mm sample

Surface Mounted Gaskets

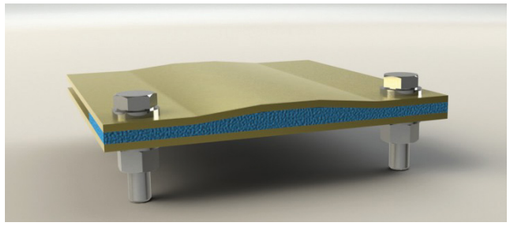
With surface mounted elastomeric gaskets, the aim should be to limit the compression of the gasket to between 10% and 20%. 10% being the minimum with a solid silicone style of gasket. (Some form of compression stop or limit is essential with surface mounted gaskets to prevent over compression).

Compression stops can be built into many styles of gasket, or made as an integral part of the flange. Their height should equal that of the maximum compressed height of the gasket. Compression stops fitted into gaskets can be in the form of collars or washers so that fixing bolts can pass through them or as solid studs located either side of a fixing bolt.

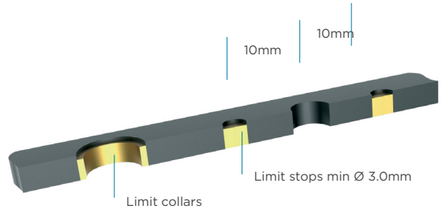
The thickness of the gasket for a known application can be calculated as follows e.g. Consider a gasket which can be compressed between 10% and 25% to be used on flanges which are not perfectly flat, i.e. the flanges without gaskets touch at some points and leave gaps in others. Since the gasket will compress between 10% and 25% we will require 25% compression at the high points and 10% at the low points (the “gaps”). The greatest gap is therefore 15% of the gasket thickness. If that gap is 0.45mm, then a gasket of 3.0mm thickness is required.

This is fine in theory provided that the flanges do not “bow” when placed under load. To overcome flange distortion, fixings may need to be added, the number of which will be determined by the flange stiffness/rigidity.

Compression

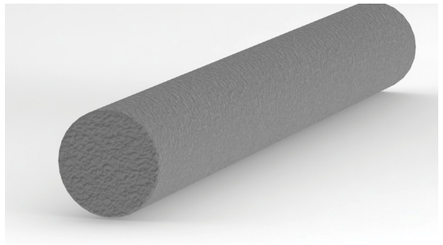


Compression Limit Applications



CONDUCTIVE ELASTOMERS: EXTRUSIONS

Technical Specifications: Round

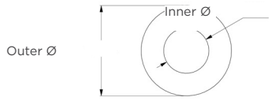


Profile: 1201

Diameter Ø	Part Number
1.00mm	1201-XXX-0010
1.10mm	1201-XXX-0011
1.20mm	1201-XXX-0012
1.30mm	1201-XXX-0013
1.40mm	1201-XXX-0014
1.50mm	1201-XXX-0015
1.60mm	1201-XXX-0016
1.80mm	1201-XXX-0018
2.00mm	1201-XXX-0020
2.20mm	1201-XXX-0022
2.40mm	1201-XXX-0024
2.50mm	1201-XXX-0025
2.80mm	1201-XXX-0028
3.00mm	1201-XXX-0030
3.20mm	1201-XXX-0032
3.50mm	1201-XXX-0035
3.80mm	1201-XXX-0038
4.00mm	1201-XXX-0040
4.30mm	1201-XXX-0043
4.50mm	1201-XXX-0045
4.80mm	1201-XXX-0048
5.00mm	1201-XXX-0050
5.30mm	1201-XXX-0053
5.50mm	1201-XXX-0055
5.80mm	1201-XXX-0058
6.00mm	1201-XXX-0060
6.30mm	1201-XXX-0063
6.50mm	1201-XXX-0065
6.80mm	1201-XXX-0068
7.00mm	1201-XXX-0070
7.30mm	1201-XXX-0073
7.50mm	1201-XXX-0075
7.80mm	1201-XXX-0078
8.00mm	1201-XXX-0080

Technical Specifications: Tubular

Profile: 1202



Outer Ø	Inner Ø	Part Number
1.20mm	0.5mm	1202-XXX-0012-0005
1.30mm	0.5mm	1202-XXX-0013-0005
1.40mm	0.5mm	1202-XXX-0014-0005
1.50mm	0.5mm	1202-XXX-0015-0005
1.60mm	0.5mm	1202-XXX-0016-0005
1.70mm	0.5mm	1202-XXX-0017-0005
1.80mm	0.5mm	1202-XXX-0018-0005
1.90mm	0.5mm	1202-XXX-0019-0005
2.00mm	0.5mm	1202-XXX-0020-0005
1.60mm	0.8mm	1202-XXX-0016-0008
1.70mm	0.8mm	1202-XXX-0017-0008
1.80mm	0.8mm	1202-XXX-0018-0008
1.90mm	0.8mm	1202-XXX-0019-0008
2.00mm	0.8mm	1202-XXX-0020-0008
2.10mm	0.8mm	1202-XXX-0021-0008
2.20mm	0.8mm	1202-XXX-0022-0008
2.30mm	0.8mm	1202-XXX-0023-0008
2.40mm	0.8mm	1202-XXX-0024-0008
2.50mm	0.8mm	1202-XXX-0025-0008
2.60mm	0.8mm	1202-XXX-0026-0008
2.70mm	0.8mm	1202-XXX-0027-0008
2.80mm	0.8mm	1202-XXX-0028-0008
2.90mm	0.8mm	1202-XXX-0029-0008
3.00mm	0.8mm	1202-XXX-0030-0008
2.00mm	1.0mm	1202-XXX-0020-0010
2.10mm	1.0mm	1202-XXX-0021-0010
2.20mm	1.0mm	1202-XXX-0022-0010
2.30mm	1.0mm	1202-XXX-0023-0010
2.40mm	1.0mm	1202-XXX-0024-0010
2.50mm	1.0mm	1202-XXX-0025-0010
2.60mm	1.0mm	1202-XXX-00126-0010
2.70mm	1.0mm	1202-XXX-0027-0010
2.80mm	1.0mm	1202-XXX-0028-0010
2.90mm	1.0mm	1202-XXX-0029-0010

Outer Ø	Inner Ø	Part Number
3.00mm	1.0mm	1202-XXX-0030-0010
3.10mm	1.0mm	1202-XXX-0031-0010
3.20mm	1.0mm	1202-XXX-0032-0010
3.30mm	1.0mm	1202-XXX-0033-0010
3.40mm	1.0mm	1202-XXX-0034-0010
3.50mm	1.0mm	1202-XXX-0035-0010
3.60mm	1.0mm	1202-XXX-0036-0010
3.70mm	1.0mm	1202-XXX-0037-0010
3.80mm	1.0mm	1202-XXX-0038-0010
3.90mm	1.0mm	1202-XXX-0039-0010
4.00mm	1.0mm	1202-XXX-0040-0010
2.50mm	1.1mm	1202-XXX-0025-0011
2.60mm	1.1mm	1202-XXX-0026-0011
2.70mm	1.1mm	1202-XXX-0027-0011
2.80mm	1.1mm	1202-XXX-0028-0011
2.90mm	1.1mm	1202-XXX-0029-0011
3.00mm	1.1mm	1202-XXX-0030-0011
3.10mm	1.1mm	1202-XXX-0031-0011
3.20mm	1.1mm	1202-XXX-0032-0011
3.40mm	1.1mm	1202-XXX-0034-0011
3.50mm	1.1mm	1202-XXX-0035-0011
3.60mm	1.1mm	1202-XXX-0036-0011
3.70mm	1.1mm	1202-XXX-0037-0011
3.80mm	1.1mm	1202-XXX-0038-0011
3.90mm	1.1mm	1202-XXX-0039-0011
4.00mm	1.1mm	1202-XXX-0040-0011
2.50mm	1.2mm	1202-XXX-0025-0012
2.60mm	1.2mm	1202-XXX-0026-0012
2.70mm	1.2mm	1202-XXX-0027-0012
2.80mm	1.2mm	1202-XXX-0028-0012
2.90mm	1.2mm	1202-XXX-0029-0012
3.00mm	1.2mm	1202-XXX-0030-0012
3.10mm	1.2mm	1202-XXX-0031-0012
3.20mm	1.2mm	1202-XXX-0032-0012
3.30mm	1.2mm	1202-XXX-0033-0012
3.40mm	1.2mm	1202-XXX-0034-0012
3.50mm	1.2mm	1202-XXX-0035-0012
3.60mm	1.2mm	1202-XXX-0036-0012
3.70mm	1.2mm	1202-XXX-0037-0012
3.80mm	1.2mm	1202-XXX-0038-0012
3.90mm	1.2mm	1202-XXX-0039-0012
4.00mm	1.2mm	1202-XXX-0040-0012
2.50mm	1.3mm	1202-XXX-0025-0013
2.60mm	1.3mm	1202-XXX-0026-0013
2.70mm	1.3mm	1202-XXX-0027-0013
2.80mm	1.3mm	1202-XXX-0028-0013
2.90mm	1.3mm	1202-XXX-0029-0013
3.00mm	1.3mm	1202-XXX-0030-0013
3.10mm	1.3mm	1202-XXX-0031-0013
3.20mm	1.3mm	1202-XXX-0032-0013
3.30mm	1.3mm	1202-XXX-0033-0013
3.40mm	1.3mm	1202-XXX-0034-0013
3.50mm	1.3mm	1202-XXX-0035-0013
3.60mm	1.3mm	1202-XXX-0036-0013
3.70mm	1.3mm	1202-XXX-0037-0013
3.80mm	1.3mm	1202-XXX-0038-0013
3.90mm	1.3mm	1202-XXX-0039-0013
4.00mm	1.3mm	1202-XXX-0040-0013

Outer Ø	Inner Ø	Part Number
3.00mm	1.5mm	1202-XXX-0030-0015
3.10mm	1.5mm	1202-XXX-0031-0015
3.20mm	1.5mm	1202-XXX-0032-0015
3.30mm	1.5mm	1202-XXX-0033-0015
3.40mm	1.5mm	1202-XXX-0034-0015
3.50mm	1.5mm	1202-XXX-0035-0015
3.60mm	1.5mm	1202-XXX-0036-0015
3.70mm	1.5mm	1202-XXX-0037-0015
3.80mm	1.5mm	1202-XXX-0038-0015
3.90mm	1.5mm	1202-XXX-0039-0015
4.00mm	1.5mm	1202-XXX-0040-0015
4.10mm	1.5mm	1202-XXX-0041-0015
4.20mm	1.5mm	1202-XXX-0042-0015
4.30mm	1.5mm	1202-XXX-0043-0015
4.40mm	1.5mm	1202-XXX-0044-0015
4.50mm	1.5mm	1202-XXX-0045-0015
4.60mm	1.5mm	1202-XXX-0046-0015
4.70mm	1.5mm	1202-XXX-0047-0015
4.80mm	1.5mm	1202-XXX-0048-0015
4.90mm	1.5mm	1202-XXX-0049-0015
5.00mm	1.5mm	1202-XXX-0050-0015
3.00mm	1.6mm	1202-XXX-0030-0016
3.10mm	1.6mm	1202-XXX-0031-0016
3.20mm	1.6mm	1202-XXX-0032-0016
3.30mm	1.6mm	1202-XXX-0033-0016
3.40mm	1.6mm	1202-XXX-0034-0016
3.50mm	1.6mm	1202-XXX-0035-0016
3.60mm	1.6mm	1202-XXX-0036-0016
3.70mm	1.6mm	1202-XXX-0037-0016
3.80mm	1.6mm	1202-XXX-0038-0016
3.90mm	1.6mm	1202-XXX-0039-0016
4.00mm	1.6mm	1202-XXX-0040-0016
4.10mm	1.6mm	1202-XXX-0041-0016
4.20mm	1.6mm	1202-XXX-0042-0016
4.30mm	1.6mm	1202-XXX-0043-0016
4.40mm	1.6mm	1202-XXX-0044-0016
4.50mm	1.6mm	1202-XXX-0045-0016
4.60mm	1.6mm	1202-XXX-0046-0016
4.70mm	1.6mm	1202-XXX-0047-0016
4.80mm	1.6mm	1202-XXX-0048-0016
4.90mm	1.6mm	1202-XXX-0049-0016
5.00mm	1.6mm	1202-XXX-0050-0016
4.00mm	2.0mm	1202-XXX-0040-0020
4.10mm	2.0mm	1202-XXX-0041-0020
4.20mm	2.0mm	1202-XXX-0042-0020
4.30mm	2.0mm	1202-XXX-0043-0020
4.40mm	2.0mm	1202-XXX-0044-0020
4.50mm	2.0mm	1202-XXX-0045-0020
4.60mm	2.0mm	1202-XXX-0046-0020
4.70mm	2.0mm	1202-XXX-0047-0020
4.80mm	2.0mm	1202-XXX-0048-0020
4.90mm	2.0mm	1202-XXX-0049-0020
5.00mm	2.0mm	1202-XXX-0050-0020
5.10mm	2.0mm	1202-XXX-0051-0020
5.20mm	2.0mm	1202-XXX-0052-0020
5.30mm	2.0mm	1202-XXX-0053-0020
5.40mm	2.0mm	1202-XXX-0054-0020
5.50mm	2.0mm	1202-XXX-0055-020

Outer Ø	Inner Ø	Part Number
5.60mm	2.0mm	1202-XXX-0056-0020
5.70mm	2.0mm	1202-XXX-0057-0020
5.80mm	2.0mm	1202-XXX-0058-0020
5.90mm	2.0mm	1202-XXX-0059-0020
6.00mm	2.0mm	1202-XXX-0060-0020
4.00mm	2.2mm	1202-XXX-0040-0022
4.10mm	2.2mm	1202-XXX-0041-0022
4.20mm	2.2mm	1202-XXX-0042-0022
4.30mm	2.2mm	1202-XXX-0043-0022
4.40mm	2.2mm	1202-XXX-0044-0022
4.50mm	2.2mm	1202-XXX-0045-0022
4.60mm	2.2mm	1202-XXX-0046-0022
4.70mm	2.2mm	1202-XXX-0047-0022
4.80mm	2.2mm	1202-XXX-0048-0022
4.90mm	2.2mm	1202-XXX-0049-0022
5.00mm	2.2mm	1202-XXX-0050-0022
5.10mm	2.2mm	1202-XXX-0051-0022
5.20mm	2.2mm	1202-XXX-0052-0022
5.30mm	2.2mm	1202-XXX-0053-0022
5.40mm	2.2mm	1202-XXX-0054-0022
5.50mm	2.2mm	1202-XXX-0055-0022
5.60mm	2.2mm	1202-XXX-0056-0022
5.70mm	2.2mm	1202-XXX-0057-0022
5.80mm	2.2mm	1202-XXX-0058-0022
5.90mm	2.2mm	1202-XXX-0059-0022
6.00mm	2.2mm	1202-XXX-0060-0022
4.50mm	2.5mm	1202-XXX-0045-0025
4.60mm	2.5mm	1202-XXX-0046-0025
4.70mm	2.5mm	1202-XXX-0047-0025
4.80mm	2.5mm	1202-XXX-0048-0025
4.90mm	2.5mm	1202-XXX-0049-0025
5.00mm	2.5mm	1202-XXX-0050-0025
5.10mm	2.5mm	1202-XXX-0051-0025
5.20mm	2.5mm	1202-XXX-0052-0025
5.30mm	2.5mm	1202-XXX-0053-0025
5.40mm	2.5mm	1202-XXX-0054-0025
5.50mm	2.5mm	1202-XXX-0055-0025
5.60mm	2.5mm	1202-XXX-0056-0025
5.70mm	2.5mm	1202-XXX-0057-0025
5.80mm	2.5mm	1202-XXX-0058-0025
5.90mm	2.5mm	1202-XXX-0059-0025
6.00mm	2.5mm	1202-XXX-0060-0025
4.80mm	2.8mm	1202-XXX-0048-0028
4.90mm	2.8mm	1202-XXX-0049-0028
5.00mm	2.8mm	1202-XXX-0050-0028
5.10mm	2.8mm	1202-XXX-0051-0028
5.20mm	2.8mm	1202-XXX-0028-0028
5.30mm	2.8mm	1202-XXX-0053-0028
5.40mm	2.8mm	1202-XXX-0054-0028
5.50mm	2.8mm	1202-XXX-0055-0028
5.60mm	2.8mm	1202-XXX-0056-0028
5.70mm	2.8mm	1202-XXX-0057-0028
5.80mm	2.8mm	1202-XXX-0058-0028
5.90mm	2.8mm	1202-XXX-0059-0028
6.00mm	2.8mm	1202-XXX-0060-0028
6.00mm	3.0mm	1202-XXX-0060-0030
6.10mm	3.0mm	1202-XXX-0061-0030
6.20mm	3.0mm	1202-XXX-0062-0030

Outer Ø	Inner Ø	Part Number
6.30mm	3.0mm	1202-XXX-0063-0030
6.40mm	3.0mm	1202-XXX-0064-0030
6.50mm	3.0mm	1202-XXX-0065-0030
6.60mm	3.0mm	1202-XXX-0066-0030
6.70mm	3.0mm	1202-XXX-0067-0030
6.80mm	3.0mm	1202-XXX-0068-0030
6.90mm	3.0mm	1202-XXX-0069-0030
7.00mm	3.0mm	1202-XXX-0070-0030
7.00mm	3.0mm	1202-XXX-0070-0030
7.10mm	3.0mm	1202-XXX-0071-0030
7.20mm	3.0mm	1202-XXX-0032-0030
7.30mm	3.0mm	1202-XXX-0073-0030
7.40mm	3.0mm	1202-XXX-0074-0030
7.50mm	3.0mm	1202-XXX-0075-0030
7.60mm	3.0mm	1202-XXX-0076-0030
7.70mm	3.0mm	1202-XXX-0077-0030
7.80mm	3.0mm	1202-XXX-0078-0030
7.90mm	3.0mm	1202-XXX-0079-0030
8.00mm	3.0mm	1202-XXX-0080-0030
8.10mm	3.0mm	1202-XXX-0081-0030
8.20mm	3.0mm	1202-XXX-0082-0030
8.30mm	3.0mm	1202-XXX-0083-0030
8.40mm	3.0mm	1202-XXX-0084-0030
8.50mm	3.0mm	1202-XXX-0085-0030
8.60mm	3.0mm	1202-XXX-0086-0030
8.70mm	3.0mm	1202-XXX-0087-0030
8.80mm	3.0mm	1202-XXX-0088-0030
8.90mm	3.0mm	1202-XXX-0089-0030
9.00mm	3.0mm	1202-XXX-0090-0030
6.00mm	3.2mm	1202-XXX-0060-0032
6.10mm	3.2mm	1202-XXX-0061-0032
6.20mm	3.2mm	1202-XXX-0062-0032
6.30mm	3.2mm	1202-XXX-0063-0032
6.40mm	3.2mm	1202-XXX-0064-0032
6.50mm	3.2mm	1202-XXX-0065-0032
6.60mm	3.2mm	1202-XXX-0066-0032
6.70mm	3.2mm	1202-XXX-0067-0032
6.80mm	3.2mm	1202-XXX-0068-0032
6.90mm	3.2mm	1202-XXX-0069-0032
7.00mm	3.2mm	1202-XXX-0070-0032
7.00mm	3.2mm	1202-XXX-0070-0032
7.10mm	3.2mm	1202-XXX-0071-0032
7.20mm	3.2mm	1202-XXX-0072-0032
7.30mm	3.2mm	1202-XXX-0073-0032
7.40mm	3.2mm	1202-XXX-0074-0032
7.50mm	3.2mm	1202-XXX-0075-0032
7.60mm	3.2mm	1202-XXX-0076-0032
7.70mm	3.2mm	1202-XXX-0077-0032
7.80mm	3.2mm	1202-XXX-0078-0032
7.90mm	3.2mm	1202-XXX-0079-0032
8.00mm	3.2mm	1202-XXX-0080-0032
8.10mm	3.2mm	1202-XXX-0081-0032
8.20mm	3.2mm	1202-XXX-0082-0032
8.30mm	3.2mm	1202-XXX-0083-0032
8.40mm	3.2mm	1202-XXX-0084-0032
8.50mm	3.2mm	1202-XXX-0085-0032
8.60mm	3.2mm	1202-XXX-0086-0032
8.70mm	3.2mm	1202-XXX-0087-0032

Outer Ø	Inner Ø	Part Number
8.80mm	3.2mm	1202-XXX-0088-0032
8.90mm	3.2mm	1202-XXX-0089-0032
9.00mm	3.2mm	1202-XXX-0090-0032
7.00mm	4.0mm	1202-XXX-0070-0040
7.00mm	4.0mm	1202-XXX-0070-0040
7.10mm	4.0mm	1202-XXX-0071-0040
7.20mm	4.0mm	1202-XXX-0072-0040
7.30mm	4.0mm	1202-XXX-0073-0040
7.40mm	4.0mm	1202-XXX-0074-0040
7.50mm	4.0mm	1202-XXX-0075-0040
7.60mm	4.0mm	1202-XXX-0076-0040
7.70mm	4.0mm	1202-XXX-0077-0040
7.80mm	4.0mm	1202-XXX-0078-0040
7.90mm	4.0mm	1202-XXX-0079-0040
8.00mm	4.0mm	1202-XXX-0080-0040
8.10mm	4.0mm	1202-XXX-0081-0040
8.20mm	4.0mm	1202-XXX-0082-0040
8.30mm	4.0mm	1202-XXX-0083-0040
8.40mm	4.0mm	1202-XXX-0084-0040
8.50mm	4.0mm	1202-XXX-0085-0040
8.60mm	4.0mm	1202-XXX-0086-0040
8.70mm	4.0mm	1202-XXX-0087-0040
8.80mm	4.0mm	1202-XXX-0088-0040
8.90mm	4.0mm	1202-XXX-0089-0040
9.00mm	4.0mm	1202-XXX-0090-0040
7.50mm	4.5mm	1202-XXX-0075-0045
7.60mm	4.5mm	1202-XXX-0076-0045
7.70mm	4.5mm	1202-XXX-0077-0045
7.80mm	4.5mm	1202-XXX-0078-0045
7.90mm	4.5mm	1202-XXX-0079-0045
8.00mm	4.5mm	1202-XXX-0080-0045
8.10mm	4.5mm	1202-XXX-0081-0045
8.20mm	4.5mm	1202-XXX-0082-0045
8.30mm	4.5mm	1202-XXX-0083-0045
8.40mm	4.5mm	1202-XXX-0084-0045
8.50mm	4.5mm	1202-XXX-0085-0045
8.60mm	4.5mm	1202-XXX-0086-0045
8.70mm	4.5mm	1202-XXX-0087-0045
8.80mm	4.5mm	1202-XXX-0088-0045
8.90mm	4.5mm	1202-XXX-0089-0045
9.00mm	1.2mm	1202-XXX-0090-0045
7.50mm	4.8mm	1202-XXX-0075-0048
7.60mm	4.8mm	1202-XXX-0076-0048
7.70mm	4.8mm	1202-XXX-0077-0048
7.80mm	4.8mm	1202-XXX-0078-0048
7.90mm	4.8mm	1202-XXX-0079-0048
8.00mm	4.8mm	1202-XXX-0080-0048
8.10mm	4.8mm	1202-XXX-0081-0048
8.20mm	4.8mm	1202-XXX-0082-0048
8.30mm	4.8mm	1202-XXX-0083-0048
8.40mm	4.8mm	1202-XXX-0084-0048
8.50mm	4.8mm	1202-XXX-0085-0048
8.60mm	4.8mm	1202-XXX-0086-0048
8.70mm	4.8mm	1202-XXX-0087-0048
8.80mm	4.8mm	1202-XXX-0088-0048
8.90mm	4.8mm	1202-XXX-0089-0048
9.00mm	4.8mm	1202-XXX-0090-0048
8.00mm	5.0mm	1202-XXX-0080-0050

Outer Ø	Inner Ø	Part Number
8.10mm	5.0mm	1202-XXX-0081-0050
8.20mm	5.0mm	1202-XXX-0082-0050
8.30mm	5.0mm	1202-XXX-0083-0050
8.40mm	5.0mm	1202-XXX-0084-0050
8.50mm	5.0mm	1202-XXX-0085-0050
8.60mm	5.0mm	1202-XXX-0086-0050
8.70mm	5.0mm	1202-XXX-0087-0050
8.80mm	5.0mm	1202-XXX-0088-0050
8.90mm	5.0mm	1202-XXX-0089-0050
9.00mm	5.0mm	1202-XXX-0090-0050

How to order
1202-XXX-XXXX-XXXX
1202- Material-Outer Diameter-Inner Diameter
Example:
1202-SNG-0081-0050 (round up dimension value)

CONDUCTIVE ELASTOMERS: CORD O-RINGS

Cord O-Rings

Material	Material Code
Silicone Nickel Graphite	SNG
Fluorosilicone Nickel Graphite	FNG
Silicone Nickel Graphite Flame Retardant UL94 VO	SNG-FR
Silicone Silver Aluminium 65 Shore A	SSA
Fluorosilicone Silver Plated Aluminium 70 Shore A	FSA(70)
Silicone Silver Aluminium 65 Shore A Blue	SSA(65B)
Silicone Silver Copper	SSC
Fluorosilicone Silver Copper	FSC
Silicone Nickel	SN
Fluorosilicone Nickel	FN

Cord Cross Section	Section Reference	Min inside Ø
1.00mm	0010	10mm
1.20mm	0012	10mm
1.30mm	0013	10mm
1.40mm	0014	10mm
1.50mm	0015	10mm
1.60mm	0016	10mm
1.80mm	0018	11mm
2.00mm	0020	12mm
2.20mm	0022	12mm
2.40mm	0024	12mm
2.50mm	0025	12mm
2.60mm	0026	12mm
2.80mm	0028	16mm
3.00mm	0030	16mm
3.20mm	0032	16mm
3.50mm	0035	19mm
3.80mm	0038	22mm
4.00mm	0040	22mm
4.30mm	0043	25mm
4.50mm	0045	25mm
4.80mm	0048	28mm
5.00mm	0050	30mm

How To Order

Select the material from the list and insert the material code followed by the section reference and finally the inside diameter (1301-XXX-XXXX-XXXX).

Example

1301-SSA-0016-0355 = Vulcanized O-Ring Silicone Silver Aluminium 1.6mm cross section 35.5mm internal dimension.

Standard Inside Ø of O-Ring	Part Number
10.00mm	1301-XXX-XXXX-0100
10.50mm	1301-XXX-XXXX-0105
11.00mm	1301-XXX-XXXX-0110
11.50mm	1301-XXX-XXXX-0115
12.00mm	1301-XXX-XXXX-0120
12.50mm	1301-XXX-XXXX-0125
13.00mm	1301-XXX-XXXX-0130
13.50mm	1301-XXX-XXXX-0135
14.00mm	1301-XXX-XXXX-0140
14.50mm	1301-XXX-XXXX-0145
15.00mm	1301-XXX-XXXX-0150
15.50mm	1301-XXX-XXXX-0155
16.00mm	1301-XXX-XXXX-0160
16.50mm	1301-XXX-XXXX-0165
17.00mm	1301-XXX-XXXX-0170
17.50mm	1301-XXX-XXXX-0175
18.00mm	1301-XXX-XXXX-0180
18.50mm	1301-XXX-XXXX-0185
19.00mm	1301-XXX-XXXX-0190
19.50mm	1301-XXX-XXXX-0195
20.00mm	1301-XXX-XXXX-0200
20.50mm	1301-XXX-XXXX-0205
21.00mm	1301-XXX-XXXX-0210
21.50mm	1301-XXX-XXXX-0215
22.00mm	1301-XXX-XXXX-0220
22.50mm	1301-XXX-XXXX-0225
23.00mm	1301-XXX-XXXX-0230
23.50mm	1301-XXX-XXXX-0235
24.00mm	1301-XXX-XXXX-0240
24.50mm	1301-XXX-XXXX-0245
25.00mm	1301-XXX-XXXX-0250
25.50mm	1301-XXX-XXXX-0255
26.00mm	1301-XXX-XXXX-0260
26.50mm	1301-XXX-XXXX-0265
27.00mm	1301-XXX-XXXX-0270
27.50mm	1301-XXX-XXXX-0275
28.00mm	1301-XXX-XXXX-0280
28.50mm	1301-XXX-XXXX-0285
29.00mm	1301-XXX-XXXX-0290
29.50mm	1301-XXX-XXXX-0295
30.00mm	1301-XXX-XXXX-0300
30.50mm	1301-XXX-XXXX-0305
31.00mm	1301-XXX-XXXX-0310
31.50mm	1301-XXX-XXXX-0315
32.00mm	1301-XXX-XXXX-0320
32.50mm	1301-XXX-XXXX-0325
33.00mm	1301-XXX-XXXX-0330
33.50mm	1301-XXX-XXXX-0335
34.00mm	1301-XXX-XXXX-0340
34.50mm	1301-XXX-XXXX-0345
35.00mm	1301-XXX-XXXX-0350
35.50mm	1301-XXX-XXXX-0355
36.00mm	1301-XXX-XXXX-0360
36.50mm	1301-XXX-XXXX-0365
37.00mm	1301-XXX-XXXX-0370
37.50mm	1301-XXX-XXXX-0375
38.00mm	1301-XXX-XXXX-0380
38.50mm	1301-XXX-XXXX-0385

Standard Inside Ø of O-Ring	Part Number
39.00mm	1301-XXX-XXXX-0390
39.50mm	1301-XXX-XXXX-0395
40.00mm	1301-XXX-XXXX-0400
40.50mm	1301-XXX-XXXX-0405
41.00mm	1301-XXX-XXXX-0410
41.50mm	1301-XXX-XXXX-0415
42.00mm	1301-XXX-XXXX-0420
42.50mm	1301-XXX-XXXX-0425
43.00mm	1301-XXX-XXXX-0430
43.50mm	1301-XXX-XXXX-0435
44.00mm	1301-XXX-XXXX-0440
44.50mm	1301-XXX-XXXX-0445
45.00mm	1301-XXX-XXXX-0450
45.50mm	1301-XXX-XXXX-0455
46.00mm	1301-XXX-XXXX-0460
46.50mm	1301-XXX-XXXX-0465
47.00mm	1301-XXX-XXXX-0470
47.50mm	1301-XXX-XXXX-0475
48.00mm	1301-XXX-XXXX-0480
48.50mm	1301-XXX-XXXX-0485
49.00mm	1301-XXX-XXXX-0490
49.50mm	1301-XXX-XXXX-0495
50.00mm	1301-XXX-XXXX-0500
50.50mm	1301-XXX-XXXX-0505
51.00mm	1301-XXX-XXXX-0510
51.50mm	1301-XXX-XXXX-0515
52.00mm	1301-XXX-XXXX-0520
52.50mm	1301-XXX-XXXX-0525
53.00mm	1301-XXX-XXXX-0530
53.50mm	1301-XXX-XXXX-0535
54.00mm	1301-XXX-XXXX-0540
54.50mm	1301-XXX-XXXX-0545
55.00mm	1301-XXX-XXXX-0550
55.50mm	1301-XXX-XXXX-0555
56.00mm	1301-XXX-XXXX-0560
56.50mm	1301-XXX-XXXX-0565
57.00mm	1301-XXX-XXXX-0570
57.50mm	1301-XXX-XXXX-0575
58.00mm	1301-XXX-XXXX-0580
58.50mm	1301-XXX-XXXX-0585
59.00mm	1301-XXX-XXXX-0590
59.50mm	1301-XXX-XXXX-0595
60.00mm	1301-XXX-XXXX-0600
60.50mm	1301-XXX-XXXX-0605
61.00mm	1301-XXX-XXXX-0610
61.50mm	1301-XXX-XXXX-0615
62.00mm	1301-XXX-XXXX-0620
62.50mm	1301-XXX-XXXX-0625
63.00mm	1301-XXX-XXXX-0630
63.50mm	1301-XXX-XXXX-0635
64.00mm	1301-XXX-XXXX-0640
64.50mm	1301-XXX-XXXX-0645
65.00mm	1301-XXX-XXXX-0650
65.50mm	1301-XXX-XXXX-0655
66.00mm	1301-XXX-XXXX-0660
66.50mm	1301-XXX-XXXX-0665
67.00mm	1301-XXX-XXXX-0670
67.50mm	1301-XXX-XXXX-0675

Standard Inside Ø of O-Ring	Part Number
68.00mm	1301-XXX-XXXX-0680
68.50mm	1301-XXX-XXXX-0685
69.00mm	1301-XXX-XXXX-0690
69.50mm	1301-XXX-XXXX-0695
70.00mm	1301-XXX-XXXX-0700
70.50mm	1301-XXX-XXXX-0705
71.00mm	1301-XXX-XXXX-0710
71.50mm	1301-XXX-XXXX-0715
72.00mm	1301-XXX-XXXX-0720
72.50mm	1301-XXX-XXXX-0725
73.00mm	1301-XXX-XXXX-0730
73.50mm	1301-XXX-XXXX-0735
74.00mm	1301-XXX-XXXX-0740
74.50mm	1301-XXX-XXXX-0745
75.00mm	1301-XXX-XXXX-0750
75.50mm	1301-XXX-XXXX-0755
76.00mm	1301-XXX-XXXX-0760
76.50mm	1301-XXX-XXXX-0765
77.00mm	1301-XXX-XXXX-0770
77.50mm	1301-XXX-XXXX-0775
78.00mm	1301-XXX-XXXX-0780
78.50mm	1301-XXX-XXXX-0785
79.00mm	1301-XXX-XXXX-0790
79.50mm	1301-XXX-XXXX-0795
80.00mm	1301-XXX-XXXX-0800
80.50mm	1301-XXX-XXXX-0805
81.00mm	1301-XXX-XXXX-0810
81.50mm	1301-XXX-XXXX-0815
82.00mm	1301-XXX-XXXX-0820
82.50mm	1301-XXX-XXXX-0825
83.00mm	1301-XXX-XXXX-0830
83.50mm	1301-XXX-XXXX-0835
84.00mm	1301-XXX-XXXX-0840
84.50mm	1301-XXX-XXXX-0845
85.00mm	1301-XXX-XXXX-0850
85.50mm	1301-XXX-XXXX-0855
86.00mm	1301-XXX-XXXX-0860
86.50mm	1301-XXX-XXXX-0865
87.00mm	1301-XXX-XXXX-0870
87.50mm	1301-XXX-XXXX-0875
88.00mm	1301-XXX-XXXX-0880
88.50mm	1301-XXX-XXXX-0885
89.00mm	1301-XXX-XXXX-0890
89.50mm	1301-XXX-XXXX-0895
90.00mm	1301-XXX-XXXX-0900
90.50mm	1301-XXX-XXXX-0905
91.00mm	1301-XXX-XXXX-0910
91.50mm	1301-XXX-XXXX-0915
92.00mm	1301-XXX-XXXX-0920
92.50mm	1301-XXX-XXXX-0925
93.00mm	1301-XXX-XXXX-0930
93.50mm	1301-XXX-XXXX-0935
94.00mm	1301-XXX-XXXX-0940
94.50mm	1301-XXX-XXXX-0945
95.00mm	1301-XXX-XXXX-0950
95.50mm	1301-XXX-XXXX-0955
96.00mm	1301-XXX-XXXX-0960
96.50mm	1301-XXX-XXXX-0965

Standard Inside Ø of O-Ring	Part Number
97.00mm	1301-XXX-XXXX-0970
97.50mm	1301-XXX-XXXX-0975
98.00mm	1301-XXX-XXXX-0980
98.50mm	1301-XXX-XXXX-0985
99.00mm	1301-XXX-XXXX-0990
99.50mm	1301-XXX-XXXX-0995
100.00mm	1301-XXX-XXXX-1000
100.50mm	1301-XXX-XXXX-1005
101.00mm	1301-XXX-XXXX-1010
101.50mm	1301-XXX-XXXX-1015
102.00mm	1301-XXX-XXXX-1020
102.50mm	1301-XXX-XXXX-1025
103.00mm	1301-XXX-XXXX-1030
103.50mm	1301-XXX-XXXX-1035
104.00mm	1301-XXX-XXXX-1040
104.50mm	1301-XXX-XXXX-1045
105.00mm	1301-XXX-XXXX-1050
105.50mm	1301-XXX-XXXX-1055
106.00mm	1301-XXX-XXXX-1060
106.50mm	1301-XXX-XXXX-1065
107.00mm	1301-XXX-XXXX-1070
107.50mm	1301-XXX-XXXX-1075
108.00mm	1301-XXX-XXXX-1080
108.50mm	1301-XXX-XXXX-1085
109.00mm	1301-XXX-XXXX-1090
109.50mm	1301-XXX-XXXX-1095
110.00mm	1301-XXX-XXXX-1100
110.50mm	1301-XXX-XXXX-1105
111.00mm	1301-XXX-XXXX-1110
111.50mm	1301-XXX-XXXX-1115
112.00mm	1301-XXX-XXXX-1120
112.50mm	1301-XXX-XXXX-1125
113.00mm	1301-XXX-XXXX-1130
113.50mm	1301-XXX-XXXX-1135
114.00mm	1301-XXX-XXXX-1140
114.50mm	1301-XXX-XXXX-1145
115.00mm	1301-XXX-XXXX-1150
115.50mm	1301-XXX-XXXX-1155
116.00mm	1301-XXX-XXXX-1160
116.50mm	1301-XXX-XXXX-1165
117.00mm	1301-XXX-XXXX-1170
117.50mm	1301-XXX-XXXX-1175
118.00mm	1301-XXX-XXXX-1180
118.50mm	1301-XXX-XXXX-1185
119.00mm	1301-XXX-XXXX-1190
119.50mm	1301-XXX-XXXX-1195
120.00mm	1301-XXX-XXXX-1200
120.50mm	1301-XXX-XXXX-1205
121.00mm	1301-XXX-XXXX-1210
121.50mm	1301-XXX-XXXX-1215
122.00mm	1301-XXX-XXXX-1220
122.50mm	1301-XXX-XXXX-1225
123.00mm	1301-XXX-XXXX-1230
123.50mm	1301-XXX-XXXX-1235
124.00mm	1301-XXX-XXXX-1240
124.50mm	1301-XXX-XXXX-1245
125.00mm	1301-XXX-XXXX-1250
125.50mm	1301-XXX-XXXX-1255

Standard Inside Ø of O-Ring	Part Number
126.00mm	1301-XXX-XXXX-1260
126.50mm	1301-XXX-XXXX-1265
127.00mm	1301-XXX-XXXX-1270
127.50mm	1301-XXX-XXXX-1275
128.00mm	1301-XXX-XXXX-1280
128.50mm	1301-XXX-XXXX-1285
129.00mm	1301-XXX-XXXX-1290
129.50mm	1301-XXX-XXXX-1295
130.00mm	1301-XXX-XXXX-1300
130.50mm	1301-XXX-XXXX-1305
131.00mm	1301-XXX-XXXX-1310
131.50mm	1301-XXX-XXXX-1315
132.00mm	1301-XXX-XXXX-1320
132.50mm	1301-XXX-XXXX-1325
133.00mm	1301-XXX-XXXX-1330
133.50mm	1301-XXX-XXXX-1335
134.00mm	1301-XXX-XXXX-1340
134.50mm	1301-XXX-XXXX-1345
135.00mm	1301-XXX-XXXX-1350
135.50mm	1301-XXX-XXXX-1355
136.00mm	1301-XXX-XXXX-1360
136.50mm	1301-XXX-XXXX-1365
137.00mm	1301-XXX-XXXX-1370
137.50mm	1301-XXX-XXXX-1375
138.00mm	1301-XXX-XXXX-1380
138.50mm	1301-XXX-XXXX-1385
139.00mm	1301-XXX-XXXX-1390
139.50mm	1301-XXX-XXXX-1395
140.00mm	1301-XXX-XXXX-1400
140.50mm	1301-XXX-XXXX-1405
141.00mm	1301-XXX-XXXX-1410
141.50mm	1301-XXX-XXXX-1415
142.00mm	1301-XXX-XXXX-1420
142.50mm	1301-XXX-XXXX-1425
143.00mm	1301-XXX-XXXX-1430
143.50mm	1301-XXX-XXXX-1435
144.00mm	1301-XXX-XXXX-1440
144.50mm	1301-XXX-XXXX-1445
145.00mm	1301-XXX-XXXX-1450
145.50mm	1301-XXX-XXXX-1455
146.00mm	1301-XXX-XXXX-1460
146.50mm	1301-XXX-XXXX-1465
147.00mm	1301-XXX-XXXX-1470
147.50mm	1301-XXX-XXXX-1475
148.00mm	1301-XXX-XXXX-1480
148.50mm	1301-XXX-XXXX-1485
149.00mm	1301-XXX-XXXX-1490
149.50mm	1301-XXX-XXXX-1495
150.00mm	1301-XXX-XXXX-1500
151.00mm	1301-XXX-XXXX-1510
152.00mm	1301-XXX-XXXX-1520
153.00mm	1301-XXX-XXXX-1530
154.00mm	1301-XXX-XXXX-1540
155.00mm	1301-XXX-XXXX-1550
156.00mm	1301-XXX-XXXX-1560
157.00mm	1301-XXX-XXXX-1570
158.00mm	1301-XXX-XXXX-1580
159.00mm	1301-XXX-XXXX-1590

Standard Inside Ø of O-Ring	Part Number
160.00mm	1301-XXX-XXXX-1600
161.00mm	1301-XXX-XXXX-1610
162.00mm	1301-XXX-XXXX-1620
163.00mm	1301-XXX-XXXX-1630
164.00mm	1301-XXX-XXXX-1640
165.00mm	1301-XXX-XXXX-1650
166.00mm	1301-XXX-XXXX-1660
167.00mm	1301-XXX-XXXX-1670
168.00mm	1301-XXX-XXXX-1680
169.00mm	1301-XXX-XXXX-1690
170.00mm	1301-XXX-XXXX-1700
171.00mm	1301-XXX-XXXX-1710
172.00mm	1301-XXX-XXXX-1720
173.00mm	1301-XXX-XXXX-1730
174.00mm	1301-XXX-XXXX-1740
175.00mm	1301-XXX-XXXX-1750
176.00mm	1301-XXX-XXXX-1760
177.00mm	1301-XXX-XXXX-1770
178.00mm	1301-XXX-XXXX-1780
179.00mm	1301-XXX-XXXX-1790
180.00mm	1301-XXX-XXXX-1800
181.00mm	1301-XXX-XXXX-1810
182.00mm	1301-XXX-XXXX-1820
183.00mm	1301-XXX-XXXX-1830
184.00mm	1301-XXX-XXXX-1840
185.00mm	1301-XXX-XXXX-1850
186.00mm	1301-XXX-XXXX-1860
187.00mm	1301-XXX-XXXX-1870
188.00mm	1301-XXX-XXXX-1880
189.00mm	1301-XXX-XXXX-1890
190.00mm	1301-XXX-XXXX-1900
191.00mm	1301-XXX-XXXX-1910
192.00mm	1301-XXX-XXXX-1920
193.00mm	1301-XXX-XXXX-1930
194.00mm	1301-XXX-XXXX-1940
195.00mm	1301-XXX-XXXX-1950
196.00mm	1301-XXX-XXXX-1960
197.00mm	1301-XXX-XXXX-1970
198.00mm	1301-XXX-XXXX-1980
199.00mm	1301-XXX-XXXX-1990
200.00mm	1301-XXX-XXXX-2000
201.00mm	1301-XXX-XXXX-2010
202.00mm	1301-XXX-XXXX-2020
203.00mm	1301-XXX-XXXX-2030
204.00mm	1301-XXX-XXXX-2040
205.00mm	1301-XXX-XXXX-2050
206.00mm	1301-XXX-XXXX-2060
207.00mm	1301-XXX-XXXX-2070
208.00mm	1301-XXX-XXXX-2080
209.00mm	1301-XXX-XXXX-2090
210.00mm	1301-XXX-XXXX-2100
211.00mm	1301-XXX-XXXX-2110
212.00mm	1301-XXX-XXXX-2120
213.00mm	1301-XXX-XXXX-2130
214.00mm	1301-XXX-XXXX-2140
215.00mm	1301-XXX-XXXX-2150
216.00mm	1301-XXX-XXXX-2160
217.00mm	1301-XXX-XXXX-2170

Standard Inside Ø of O-Ring	Part Number
218.00mm	1301-XXX-XXXX-2180
219.00mm	1301-XXX-XXXX-2190
220.00mm	1301-XXX-XXXX-2200
221.00mm	1301-XXX-XXXX-2210
222.00mm	1301-XXX-XXXX-2220
223.00mm	1301-XXX-XXXX-2230
224.00mm	1301-XXX-XXXX-2240
225.00mm	1301-XXX-XXXX-2250
226.00mm	1301-XXX-XXXX-2260
227.00mm	1301-XXX-XXXX-2270
228.00mm	1301-XXX-XXXX-2280
229.00mm	1301-XXX-XXXX-2290
230.00mm	1301-XXX-XXXX-2300
231.00mm	1301-XXX-XXXX-2310
232.00mm	1301-XXX-XXXX-2320
233.00mm	1301-XXX-XXXX-2330
234.00mm	1301-XXX-XXXX-2340
235.00mm	1301-XXX-XXXX-2350
236.00mm	1301-XXX-XXXX-2360
237.00mm	1301-XXX-XXXX-2370
238.00mm	1301-XXX-XXXX-2380
239.00mm	1301-XXX-XXXX-2390
240.00mm	1301-XXX-XXXX-2400
241.00mm	1301-XXX-XXXX-2410
242.00mm	1301-XXX-XXXX-2420
243.00mm	1301-XXX-XXXX-2430
244.00mm	1301-XXX-XXXX-2440
245.00mm	1301-XXX-XXXX-2450
246.00mm	1301-XXX-XXXX-2460
247.00mm	1301-XXX-XXXX-2470
248.00mm	1301-XXX-XXXX-2480
249.00mm	1301-XXX-XXXX-2490
250.00mm	1301-XXX-XXXX-2500

Standard Vulcanized Tube O-Rings

Material	Material Code
Silicone Nickel Graphite	SNG
Fluorosilicone Nickel Graphite	FNG
Silicone Nickel Graphite Flame Retardant UL94 VO	SNG-FR
Silicone Silver Aluminium 65 Shore A	SSA
Fluorosilicone Silver Plated Aluminium 70 Shore A	FSA(70)
Silicone Silver Aluminium 65 Shore A Blue	SSA(65B)
Silicone Silver Copper	SSC
Fluorosilicone Silver Copper	FSC
Silicone Nickel	SN
Fluorosilicone Nickel	FN

Tube O/D Cross Section	Min inside Ø
1.00mm	10mm
1.20mm	10mm
1.30mm	10mm
1.40mm	10mm
1.50mm	10mm
1.60mm	10mm
1.80mm	11mm
2.00mm	12mm
2.20mm	12mm
2.40mm	12mm
2.50mm	12mm
2.60mm	12mm
2.80mm	16mm
3.00mm	16mm
3.20mm	16mm
3.50mm	19mm
3.80mm	22mm
4.00mm	22mm
4.30mm	25mm
4.50mm	25mm
4.80mm	28mm
5.00mm	30mm

Standard Tube Cross Section	Part Number
1.20 x 0.5mm	0012-0005
1.30 x 0.5mm	0013-0005
1.40 x 0.5mm	0014-0005
1.50 x 0.5mm	0015-0005
1.60 x 0.5mm	0016-0005
1.80 x 0.5mm	0018-0005
2.00 x 0.5mm	0020-0005
1.60 x 0.8mm	0016-0008
1.80 x 0.8mm	0018-0008
2.00 x 0.8mm	0020-0008
2.20 x 0.8mm	0022-0008
2.40 x 0.8mm	0024-0008
2.50 x 0.8mm	0025-0008
2.60 x 0.8mm	0026-0008
2.80 x 0.8mm	0028-0008
3.00 x 0.8mm	0030-0008
2.00 x 1.0mm	0020-0010
2.20 x 1.0mm	0022-0010
2.40 x 1.0mm	0024-0010
2.50 x 1.0mm	0025-0010

Standard Inside Ø of O-Ring	Part Number
2.60 x 1.0mm	0026-0010
2.80 x 1.0mm	0028-0010
3.00 x 1.0mm	0030-0010
3.20 x 1.0mm	0032-0010
3.50 x 1.0mm	0035-0010
3.80 x 1.0mm	0038-0010
4.00 x 1.0mm	0040-0010
2.50 x 1.1mm	0025-0011
2.60 x 1.1mm	0026-0011
2.80 x 1.1mm	0028-0011
3.00 x 1.1mm	0030-0011
3.20 x 1.1mm	0032-0011
3.50 x 1.1mm	0035-0011
3.80 x 1.1mm	0038-0011
4.00 x 1.1mm	0040-0011
2.50 x 1.2mm	0025-0012
2.60 x 1.2mm	0026-0012
2.80 x 1.2mm	0028-0012
3.00 x 1.2mm	0030-0012
3.20 x 1.2mm	0032-0012
3.50 x 1.2mm	0035-0012
3.80 x 1.2mm	0038-0012
4.00 x 1.2mm	0040-0012
2.50 x 1.3mm	0025-0013
2.60 x 1.3mm	0026-0013
2.80 x 1.3mm	0028-0013
3.00 x 1.3mm	0030-0013
3.20 x 1.3mm	0032-0013
3.50 x 1.3mm	0035-0013
3.80 x 1.3mm	0038-0013
4.00 x 1.3mm	0040-0013
3.00 x 1.5mm	0030-0015
3.20 x 1.5mm	0032-0015
3.50 x 1.5mm	0035-0015
3.80 x 1.5mm	0038-0015
4.00 x 1.5mm	0040-0015
4.30 x 1.5mm	0043-0015
4.50 x 1.5mm	0045-0015
4.80 x 1.5mm	0048-0015
5.00 x 1.5mm	0050-0015
3.00 x 1.6mm	0030-0016
3.20 x 1.6mm	0032-0016
3.50 x 1.6mm	0035-0016
3.80 x 1.6mm	0038-0016
4.00 x 1.6mm	0040-0016
4.10 x 1.6mm	0041-0016
4.30 x 1.6mm	0043-0016
4.50 x 1.6mm	0045-0016
4.80 x 1.6mm	0048-0016
5.00 x 1.6mm	0050-0016
4.00 x 2.0mm	0040-0020
4.30 x 2.0mm	0043-0020
4.50 x 2.0mm	0045-0020
4.80 x 2.0mm	0048-0020
5.00 x 2.0mm	0050-0020
4.00 x 2.2mm	0040-0022
4.30 x 2.2mm	0043-0022
4.50 x 2.2mm	0045-0022
4.80 x 2.2mm	0048-0022
5.00 x 2.2mm	0050-0022
4.50 x 2.5mm	0045-0025
4.80 x 2.5mm	0048-0025
5.00 x 2.5mm	0050-0025
4.80 x 2.8mm	0048-0028
5.00 x 2.8mm	0050-0028

How To Order

Select the material from the list and insert the material code followed by the section reference and finally the inside diameter (1302-XXX-XXXX-XXXX-XXXX).

Example

1302-SNG-0030-0500 = Silicone Nickel Graphite Hollow cross section 3.0mm O/D x 1.5mm I/D O-Ring 50mm internal.

Inside Ø of O-Ring	Part Number
10.00mm	1302-XXX-XXXX-XXXX-0100
10.50mm	1302-XXX-XXXX-XXXX-0105
11.00mm	1302-XXX-XXXX-XXXX-0110
11.50mm	1302-XXX-XXXX-XXXX-0115
12.00mm	1302-XXX-XXXX-XXXX-0120
12.50mm	1302-XXX-XXXX-XXXX-0125
13.00mm	1302-XXX-XXXX-XXXX-0130
13.50mm	1302-XXX-XXXX-XXXX-0135
14.00mm	1302-XXX-XXXX-XXXX-0140
14.50mm	1302-XXX-XXXX-XXXX-0145
15.00mm	1302-XXX-XXXX-XXXX-0150
15.50mm	1302-XXX-XXXX-XXXX-0155
16.00mm	1302-XXX-XXXX-XXXX-0160
16.50mm	1302-XXX-XXXX-XXXX-0165
17.00mm	1302-XXX-XXXX-XXXX-0170
17.50mm	1302-XXX-XXXX-XXXX-0175
18.00mm	1302-XXX-XXXX-XXXX-0180
18.50mm	1302-XXX-XXXX-XXXX-0185
19.00mm	1302-XXX-XXXX-XXXX-0190
19.50mm	1302-XXX-XXXX-XXXX-0195
20.00mm	1302-XXX-XXXX-XXXX-0200
20.50mm	1302-XXX-XXXX-XXXX-0205
21.00mm	1302-XXX-XXXX-XXXX-0210
21.50mm	1302-XXX-XXXX-XXXX-0215
22.00mm	1302-XXX-XXXX-XXXX-0220
22.50mm	1302-XXX-XXXX-XXXX-0225
23.00mm	1302-XXX-XXXX-XXXX-0230
23.50mm	1302-XXX-XXXX-XXXX-0235
24.00mm	1302-XXX-XXXX-XXXX-0240
24.50mm	1302-XXX-XXXX-XXXX-0245
25.00mm	1302-XXX-XXXX-XXXX-0250
25.50mm	1302-XXX-XXXX-XXXX-0255
26.00mm	1302-XXX-XXXX-XXXX-0260
26.50mm	1302-XXX-XXXX-XXXX-0265
27.00mm	1302-XXX-XXXX-XXXX-0270
27.50mm	1302-XXX-XXXX-XXXX-0275
28.00mm	1302-XXX-XXXX-XXXX-0280
28.50mm	1302-XXX-XXXX-XXXX-0285

Inside Ø of O-Ring	Part Number
29.00mm	1302-XXX-XXXX-XXXX-0290
29.50mm	1302-XXX-XXXX-XXXX-0295
30.00mm	1302-XXX-XXXX-XXXX-0300
30.50mm	1302-XXX-XXXX-XXXX-0305
31.00mm	1302-XXX-XXXX-XXXX-0310
31.50mm	1302-XXX-XXXX-XXXX-0315
32.00mm	1302-XXX-XXXX-XXXX-0320
32.50mm	1302-XXX-XXXX-XXXX-0325
33.00mm	1302-XXX-XXXX-XXXX-0330
33.50mm	1302-XXX-XXXX-XXXX-0350
34.00mm	1302-XXX-XXXX-XXXX-0340
34.50mm	1302-XXX-XXXX-XXXX-0345
35.00mm	1302-XXX-XXXX-XXXX-0350
35.50mm	1302-XXX-XXXX-XXXX-0355
36.00mm	1302-XXX-XXXX-XXXX-0360
36.50mm	1302-XXX-XXXX-XXXX-0365
37.00mm	1302-XXX-XXXX-XXXX-0370
37.50mm	1302-XXX-XXXX-XXXX-0375
38.00mm	1302-XXX-XXXX-XXXX-0380
38.50mm	1302-XXX-XXXX-XXXX-0385
39.00mm	1302-XXX-XXXX-XXXX-0390
39.50mm	1302-XXX-XXXX-XXXX-0395
40.00mm	1302-XXX-XXXX-XXXX-0400
40.50mm	1302-XXX-XXXX-XXXX-0405
41.00mm	1302-XXX-XXXX-XXXX-0410
41.50mm	1302-XXX-XXXX-XXXX-0415
42.00mm	1302-XXX-XXXX-XXXX-0420
42.50mm	1302-XXX-XXXX-XXXX-0425
43.00mm	1302-XXX-XXXX-XXXX-0430
43.50mm	1302-XXX-XXXX-XXXX-0435
44.00mm	1302-XXX-XXXX-XXXX-0440
44.50mm	1302-XXX-XXXX-XXXX-0445
45.00mm	1302-XXX-XXXX-XXXX-0450
45.50mm	1302-XXX-XXXX-XXXX-0455
46.00mm	1302-XXX-XXXX-XXXX-0460
46.50mm	1302-XXX-XXXX-XXXX-0465
47.00mm	1302-XXX-XXXX-XXXX-0470
47.50mm	1302-XXX-XXXX-XXXX-0475
48.00mm	1302-XXX-XXXX-XXXX-0480
48.50mm	1302-XXX-XXXX-XXXX-0485
49.00mm	1302-XXX-XXXX-XXXX-0490
49.50mm	1302-XXX-XXXX-XXXX-0495
50.00mm	1302-XXX-XXXX-XXXX-0500
50.50mm	1302-XXX-XXXX-XXXX-0505
51.00mm	1302-XXX-XXXX-XXXX-0510
51.50mm	1302-XXX-XXXX-XXXX-0515
52.00mm	1302-XXX-XXXX-XXXX-0520
52.50mm	1302-XXX-XXXX-XXXX-0525
53.00mm	1302-XXX-XXXX-XXXX-0530
53.50mm	1302-XXX-XXXX-XXXX-0535
54.00mm	1302-XXX-XXXX-XXXX-0540
54.50mm	1302-XXX-XXXX-XXXX-0545
55.00mm	1302-XXX-XXXX-XXXX-0550
55.50mm	1302-XXX-XXXX-XXXX-0555
56.00mm	1302-XXX-XXXX-XXXX-0560
56.50mm	1302-XXX-XXXX-XXXX-0565
57.00mm	1302-XXX-XXXX-XXXX-0570
57.50mm	1302-XXX-XXXX-XXXX-0575

Inside Ø of O-Ring	Part Number
58.00mm	1302-XXX-XXXX-XXXX-0580
58.50mm	1302-XXX-XXXX-XXXX-0585
59.00mm	1302-XXX-XXXX-XXXX-0590
59.50mm	1302-XXX-XXXX-XXXX-0595
60.00mm	1302-XXX-XXXX-XXXX-0600
60.50mm	1302-XXX-XXXX-XXXX-0605
61.00mm	1302-XXX-XXXX-XXXX-0610
61.50mm	1302-XXX-XXXX-XXXX-0615
62.00mm	1302-XXX-XXXX-XXXX-0620
62.50mm	1302-XXX-XXXX-XXXX-0625
63.00mm	1302-XXX-XXXX-XXXX-0630
63.50mm	1302-XXX-XXXX-XXXX-0635
64.00mm	1302-XXX-XXXX-XXXX-0640
64.50mm	1302-XXX-XXXX-XXXX-0645
65.00mm	1302-XXX-XXXX-XXXX-0650
65.50mm	1302-XXX-XXXX-XXXX-0655
66.00mm	1302-XXX-XXXX-XXXX-0660
66.50mm	1302-XXX-XXXX-XXXX-0665
67.00mm	1302-XXX-XXXX-XXXX-0670
67.50mm	1302-XXX-XXXX-XXXX-0675
68.00mm	1302-XXX-XXXX-XXXX-0680
68.50mm	1302-XXX-XXXX-XXXX-0685
69.00mm	1302-XXX-XXXX-XXXX-0690
69.50mm	1302-XXX-XXXX-XXXX-0695
70.00mm	1302-XXX-XXXX-XXXX-0700
70.50mm	1302-XXX-XXXX-XXXX-0705
71.00mm	1302-XXX-XXXX-XXXX-0710
71.50mm	1302-XXX-XXXX-XXXX-0715
72.00mm	1302-XXX-XXXX-XXXX-0720
72.50mm	1302-XXX-XXXX-XXXX-0725
73.00mm	1302-XXX-XXXX-XXXX-0730
73.50mm	1302-XXX-XXXX-XXXX-0735
74.00mm	1302-XXX-XXXX-XXXX-0740
74.50mm	1302-XXX-XXXX-XXXX-0745
75.00mm	1302-XXX-XXXX-XXXX-0750
75.50mm	1302-XXX-XXXX-XXXX-0755
76.00mm	1302-XXX-XXXX-XXXX-0760
76.50mm	1302-XXX-XXXX-XXXX-0765
77.00mm	1302-XXX-XXXX-XXXX-0770
77.50mm	1302-XXX-XXXX-XXXX-0775
78.00mm	1302-XXX-XXXX-XXXX-0780
78.50mm	1302-XXX-XXXX-XXXX-0785
79.00mm	1302-XXX-XXXX-XXXX-0790
79.50mm	1302-XXX-XXXX-XXXX-0795
80.00mm	1302-XXX-XXXX-XXXX-0800
80.50mm	1302-XXX-XXXX-XXXX-0805
81.00mm	1302-XXX-XXXX-XXXX-0810
81.50mm	1302-XXX-XXXX-XXXX-0815
82.00mm	1302-XXX-XXXX-XXXX-0820
82.50mm	1302-XXX-XXXX-XXXX-0825
83.00mm	1302-XXX-XXXX-XXXX-0830
83.50mm	1302-XXX-XXXX-XXXX-0835
84.00mm	1302-XXX-XXXX-XXXX-0840
84.50mm	1302-XXX-XXXX-XXXX-0845
85.00mm	1302-XXX-XXXX-XXXX-0850
85.50mm	1302-XXX-XXXX-XXXX-0855
86.00mm	1302-XXX-XXXX-XXXX-0860
86.50mm	1302-XXX-XXXX-XXXX-0865

Inside Ø of O-Ring	Part Number
87.00mm	1302-XXX-XXXX-XXXX-0870
87.50mm	1302-XXX-XXXX-XXXX-0875
88.00mm	1302-XXX-XXXX-XXXX-0880
88.50mm	1302-XXX-XXXX-XXXX-0885
89.00mm	1302-XXX-XXXX-XXXX-0890
89.50mm	1302-XXX-XXXX-XXXX-0895
90.00mm	1302-XXX-XXXX-XXXX-0900
90.50mm	1302-XXX-XXXX-XXXX-0905
91.00mm	1302-XXX-XXXX-XXXX-0910
91.50mm	1302-XXX-XXXX-XXXX-0915
92.00mm	1302-XXX-XXXX-XXXX-0920
92.50mm	1302-XXX-XXXX-XXXX-0925
93.00mm	1302-XXX-XXXX-XXXX-0930
93.50mm	1302-XXX-XXXX-XXXX-0935
94.00mm	1302-XXX-XXXX-XXXX-0940
94.50mm	1302-XXX-XXXX-XXXX-0945
95.00mm	1302-XXX-XXXX-XXXX-0950
95.50mm	1302-XXX-XXXX-XXXX-0955
96.00mm	1302-XXX-XXXX-XXXX-0960
96.50mm	1302-XXX-XXXX-XXXX-0965
97.00mm	1302-XXX-XXXX-XXXX-0970
97.50mm	1302-XXX-XXXX-XXXX-0975
98.00mm	1302-XXX-XXXX-XXXX-0980
98.50mm	1302-XXX-XXXX-XXXX-0985
99.00mm	1302-XXX-XXXX-XXXX-0990
99.50mm	1302-XXX-XXXX-XXXX-0995
100.00mm	1302-XXX-XXXX-XXXX-1000
100.50mm	1302-XXX-XXXX-XXXX-1005
101.00mm	1302-XXX-XXXX-XXXX-1010
101.50mm	1302-XXX-XXXX-XXXX-1015
102.00mm	1302-XXX-XXXX-XXXX-1020
102.50mm	1302-XXX-XXXX-XXXX-1025
103.00mm	1302-XXX-XXXX-XXXX-1030
103.50mm	1302-XXX-XXXX-XXXX-1035
104.00mm	1302-XXX-XXXX-XXXX-1040
104.50mm	1302-XXX-XXXX-XXXX-1045
105.00mm	1302-XXX-XXXX-XXXX-1050
105.50mm	1302-XXX-XXXX-XXXX-1055
106.00mm	1302-XXX-XXXX-XXXX-1060
106.50mm	1302-XXX-XXXX-XXXX-1065
107.00mm	1302-XXX-XXXX-XXXX-1070
107.50mm	1302-XXX-XXXX-XXXX-1075
108.00mm	1302-XXX-XXXX-XXXX-1080
108.50mm	1302-XXX-XXXX-XXXX-1085
109.00mm	1302-XXX-XXXX-XXXX-1090
109.50mm	1302-XXX-XXXX-XXXX-1095
110.00mm	1302-XXX-XXXX-XXXX-1100
110.50mm	1302-XXX-XXXX-XXXX-1105
111.00mm	1302-XXX-XXXX-XXXX-1110
111.50mm	1302-XXX-XXXX-XXXX-1115
112.00mm	1302-XXX-XXXX-XXXX-1120
112.50mm	1302-XXX-XXXX-XXXX-1125
113.00mm	1302-XXX-XXXX-XXXX-1130
113.50mm	1302-XXX-XXXX-XXXX-1135
114.00mm	1302-XXX-XXXX-XXXX-1140
114.50mm	1302-XXX-XXXX-XXXX-1145
115.00mm	1302-XXX-XXXX-XXXX-1150
115.50mm	1302-XXX-XXXX-XXXX-1155

Inside Ø of O-Ring	Part Number
116.00mm	1302-XXX-XXXX-XXXX-1160
116.50mm	1302-XXX-XXXX-XXXX-1165
117.00mm	1302-XXX-XXXX-XXXX-1170
117.50mm	1302-XXX-XXXX-XXXX-1175
118.00mm	1302-XXX-XXXX-XXXX-1180
118.50mm	1302-XXX-XXXX-XXXX-1185
119.00mm	1302-XXX-XXXX-XXXX-1190
119.50mm	1302-XXX-XXXX-XXXX-1195
120.00mm	1302-XXX-XXXX-XXXX-1200
120.50mm	1302-XXX-XXXX-XXXX-1205
121.00mm	1302-XXX-XXXX-XXXX-1210
121.50mm	1302-XXX-XXXX-XXXX-1215
122.00mm	1302-XXX-XXXX-XXXX-1220
122.50mm	1302-XXX-XXXX-XXXX-1225
123.00mm	1302-XXX-XXXX-XXXX-1230
123.50mm	1302-XXX-XXXX-XXXX-1235
124.00mm	1302-XXX-XXXX-XXXX-1240
124.50mm	1302-XXX-XXXX-XXXX-1245
125.00mm	1302-XXX-XXXX-XXXX-1250
125.50mm	1302-XXX-XXXX-XXXX-1255
126.00mm	1302-XXX-XXXX-XXXX-1260
126.50mm	1302-XXX-XXXX-XXXX-1265
127.00mm	1302-XXX-XXXX-XXXX-1270
127.50mm	1302-XXX-XXXX-XXXX-1275
128.00mm	1302-XXX-XXXX-XXXX-1280
128.50mm	1302-XXX-XXXX-XXXX-1285
129.00mm	1302-XXX-XXXX-XXXX-1290
129.50mm	1302-XXX-XXXX-XXXX-1295
130.00mm	1302-XXX-XXXX-XXXX-1300
130.50mm	1302-XXX-XXXX-XXXX-1305
131.00mm	1302-XXX-XXXX-XXXX-1310
131.50mm	1302-XXX-XXXX-XXXX-1315
132.00mm	1302-XXX-XXXX-XXXX-1320
132.50mm	1302-XXX-XXXX-XXXX-1325
133.00mm	1302-XXX-XXXX-XXXX-1330
133.50mm	1302-XXX-XXXX-XXXX-1335
134.00mm	1302-XXX-XXXX-XXXX-1340
134.50mm	1302-XXX-XXXX-XXXX-1345
135.00mm	1302-XXX-XXXX-XXXX-1350
135.50mm	1302-XXX-XXXX-XXXX-1355
136.00mm	1302-XXX-XXXX-XXXX-1360
136.50mm	1302-XXX-XXXX-XXXX-1365
137.00mm	1302-XXX-XXXX-XXXX-1370
137.50mm	1302-XXX-XXXX-XXXX-1375
138.00mm	1302-XXX-XXXX-XXXX-1380
138.50mm	1302-XXX-XXXX-XXXX-1385
139.00mm	1302-XXX-XXXX-XXXX-1390
139.50mm	1302-XXX-XXXX-XXXX-1395
140.00mm	1302-XXX-XXXX-XXXX-1400
140.50mm	1302-XXX-XXXX-XXXX-1405
141.00mm	1302-XXX-XXXX-XXXX-1410
141.50mm	1302-XXX-XXXX-XXXX-1415
142.00mm	1302-XXX-XXXX-XXXX-1420
142.50mm	1302-XXX-XXXX-XXXX-1425
143.00mm	1302-XXX-XXXX-XXXX-1430
143.50mm	1302-XXX-XXXX-XXXX-1435
144.00mm	1302-XXX-XXXX-XXXX-1440
144.50mm	1302-XXX-XXXX-XXXX-1445

Inside Ø of O-Ring	Part Number
145.00mm	1302-XXX-XXXX-XXXX-1450
145.50mm	1302-XXX-XXXX-XXXX-1455
146.00mm	1302-XXX-XXXX-XXXX-1460
146.50mm	1302-XXX-XXXX-XXXX-1465
147.00mm	1302-XXX-XXXX-XXXX-1470
147.50mm	1302-XXX-XXXX-XXXX-1475
148.00mm	1302-XXX-XXXX-XXXX-1480
148.50mm	1302-XXX-XXXX-XXXX-1485
149.00mm	1302-XXX-XXXX-XXXX-1490
149.50mm	1302-XXX-XXXX-XXXX-1495
150.00mm	1302-XXX-XXXX-XXXX-1500
151.00mm	1302-XXX-XXXX-XXXX-1510
152.00mm	1302-XXX-XXXX-XXXX-1520
153.00mm	1302-XXX-XXXX-XXXX-1530
154.00mm	1302-XXX-XXXX-XXXX-1540
155.00mm	1302-XXX-XXXX-XXXX-1550
156.00mm	1302-XXX-XXXX-XXXX-1560
157.00mm	1302-XXX-XXXX-XXXX-1570
158.00mm	1302-XXX-XXXX-XXXX-1580
159.00mm	1302-XXX-XXXX-XXXX-1590
160.00mm	1302-XXX-XXXX-XXXX-1600
161.00mm	1302-XXX-XXXX-XXXX-1610
162.00mm	1302-XXX-XXXX-XXXX-1620
163.00mm	1302-XXX-XXXX-XXXX-1630
164.00mm	1302-XXX-XXXX-XXXX-1640
165.00mm	1302-XXX-XXXX-XXXX-1650
166.00mm	1302-XXX-XXXX-XXXX-1660
167.00mm	1302-XXX-XXXX-XXXX-1670
168.00mm	1302-XXX-XXXX-XXXX-1680
169.00mm	1302-XXX-XXXX-XXXX-1690
170.00mm	1302-XXX-XXXX-XXXX-1700
171.00mm	1302-XXX-XXXX-XXXX-1710
172.00mm	1302-XXX-XXXX-XXXX-1720
173.00mm	1302-XXX-XXXX-XXXX-1730
174.00mm	1302-XXX-XXXX-XXXX-1740
175.00mm	1302-XXX-XXXX-XXXX-1750
176.00mm	1302-XXX-XXXX-XXXX-1760
177.00mm	1302-XXX-XXXX-XXXX-1770
178.00mm	1302-XXX-XXXX-XXXX-1780
179.00mm	1302-XXX-XXXX-XXXX-1790
180.00mm	1302-XXX-XXXX-XXXX-1800
181.00mm	1302-XXX-XXXX-XXXX-1810
182.00mm	1302-XXX-XXXX-XXXX-1820
183.00mm	1302-XXX-XXXX-XXXX-1830
184.00mm	1302-XXX-XXXX-XXXX-1840
185.00mm	1302-XXX-XXXX-XXXX-1850
186.00mm	1302-XXX-XXXX-XXXX-1860
187.00mm	1302-XXX-XXXX-XXXX-1870
188.00mm	1302-XXX-XXXX-XXXX-1880
189.00mm	1302-XXX-XXXX-XXXX-1890
190.00mm	1302-XXX-XXXX-XXXX-1900
191.00mm	1302-XXX-XXXX-XXXX-1910
192.00mm	1302-XXX-XXXX-XXXX-1920
193.00mm	1302-XXX-XXXX-XXXX-1930
194.00mm	1302-XXX-XXXX-XXXX-1940
195.00mm	1302-XXX-XXXX-XXXX-1950
196.00mm	1302-XXX-XXXX-XXXX-1960
197.00mm	1302-XXX-XXXX-XXXX-1970

Inside Ø of O-Ring	Part Number
198.00mm	1302-XXX-XXXX-XXXX-1980
199.00mm	1302-XXX-XXXX-XXXX-1990
200.00mm	1302-XXX-XXXX-XXXX-2000
201.00mm	1302-XXX-XXXX-XXXX-2010
202.00mm	1302-XXX-XXXX-XXXX-2020
203.00mm	1302-XXX-XXXX-XXXX-2030
204.00mm	1302-XXX-XXXX-XXXX-2040
205.00mm	1302-XXX-XXXX-XXXX-2050
206.00mm	1302-XXX-XXXX-XXXX-2060
207.00mm	1302-XXX-XXXX-XXXX-2070
208.00mm	1302-XXX-XXXX-XXXX-2080
209.00mm	1302-XXX-XXXX-XXXX-2090
210.00mm	1302-XXX-XXXX-XXXX-2100
211.00mm	1302-XXX-XXXX-XXXX-2110
212.00mm	1302-XXX-XXXX-XXXX-2120
213.00mm	1302-XXX-XXXX-XXXX-2130
214.00mm	1302-XXX-XXXX-XXXX-2140
215.00mm	1302-XXX-XXXX-XXXX-2150
216.00mm	1302-XXX-XXXX-XXXX-2160
217.00mm	1302-XXX-XXXX-XXXX-2170
218.00mm	1302-XXX-XXXX-XXXX-2180
219.00mm	1302-XXX-XXXX-XXXX-2190
220.00mm	1302-XXX-XXXX-XXXX-2200
221.00mm	1302-XXX-XXXX-XXXX-2210
222.00mm	1302-XXX-XXXX-XXXX-2220
223.00mm	1302-XXX-XXXX-XXXX-2230
224.00mm	1302-XXX-XXXX-XXXX-2240
225.00mm	1302-XXX-XXXX-XXXX-2250
226.00mm	1302-XXX-XXXX-XXXX-2260
227.00mm	1302-XXX-XXXX-XXXX-2270
228.00mm	1302-XXX-XXXX-XXXX-2280
229.00mm	1302-XXX-XXXX-XXXX-2290
230.00mm	1302-XXX-XXXX-XXXX-2300
231.00mm	1302-XXX-XXXX-XXXX-2310
232.00mm	1302-XXX-XXXX-XXXX-2320
233.00mm	1302-XXX-XXXX-XXXX-2330

Inside Ø of O-Ring	Part Number
234.00mm	1302-XXX-XXXX-XXXX-2340
235.00mm	1302-XXX-XXXX-XXXX-2350
236.00mm	1302-XXX-XXXX-XXXX-2360
237.00mm	1302-XXX-XXXX-XXXX-2370
238.00mm	1302-XXX-XXXX-XXXX-2380
239.00mm	1302-XXX-XXXX-XXXX-2390
240.00mm	1302-XXX-XXXX-XXXX-2400
241.00mm	1302-XXX-XXXX-XXXX-2410
242.00mm	1302-XXX-XXXX-XXXX-2420
243.00mm	1302-XXX-XXXX-XXXX-2430
244.00mm	1302-XXX-XXXX-XXXX-2440
245.00mm	1302-XXX-XXXX-XXXX-2450
246.00mm	1302-XXX-XXXX-XXXX-2460
247.00mm	1302-XXX-XXXX-XXXX-2470
248.00mm	1302-XXX-XXXX-XXXX-2480
249.00mm	1302-XXX-XXXX-XXXX-2490
250.00mm	1302-XXX-XXXX-XXXX-2500

JAM NUT SEALS

Product Overview

Jam nut seals are o-rings that are designed to shield against radio frequency interference / electro-magnetic interference (RFI/EMI).

Jam Nut Seals

Jam nut seals are compression moulded, and do not include a join like vulcanised-joined o-rings. Moulding is essential where small cross section and/or small inside diameter is required. If the O-Ring is to fit in a groove, it is important that the O-Ring does not over-fill the groove. The cross-sectional area of the groove must be a minimum of 5% greater than the O-Ring's cross-sectional area. Attention must be paid to ensure the closing force available will deflect the the O-Ring to the required working height. For more information, read the 114-specification for this product range.

Compliance

Jam nut seals are compliant with :

- MIL-DTL-38999
- MIL-DTL-26482
- MIL-DTL-81511

Tolerances

Inside diameter (ID)
Less than 38.1mm ±0.25mm
38.1mm - 50.8mm ±0.38mm

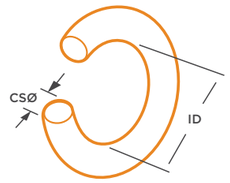
Cross section diameter (CS)
1.8mm ±0.1mm
2.6mm ±0.13mm

Moulded Tolerances

- Maximum tooling mismatch 0.08mm
- Flash and parting line projection:
- Maximum thickness 0.15mm
- Maximum protrusion 0.15mm

The choice of jam nut seal (JNS) materials includes

MATERIAL	MATERIAL CODE
Silicone Nickel Graphite	SNG
Fluorosilicone Nickel Graphite	FNG
Silicone Silver Aluminum	SSA
Fluorosilicone Silver Aluminum	FSA
Silicone Nickel Aluminium	SNA
Fluorosilicone Nickel Aluminium	FNA



CSØ - Cross Section Diameter

ID - Inside Diameter

MIL-DTL-38999 / MIL-DTL-26482

TCPN	PART DESCRIPTION	FILLER MATERIAL	PETROLEUM RESISTANCE	VOLUME RESISTIVITY (MAX) (OHMCM)	CROSS SECTION DIAMETER [INCH]	CROSS SECTION DIAMETER [MM]	INSIDE DIAMETER (INCH)	INSIDE DIAMETER (MM)	OPERATING TEMPERATURE RANGE (C°)	OPERATING TEMPERATURE RANGE (F°)	SHELL SIZE
2430093-1	JNS O-Ring SNG 38999 Shell 6	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	0.551	14	-55 – 160	-67 – 320	6
2430094-1	JNS O-Ring SNG 38999 Shell 8	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	0.677	17.2	-55 – 160	-67 – 320	8
2430095-1	JNS O-Ring SNG 38999 Shell 9 & 10	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	0.803	20.4	-55 – 160	-67 – 320	9
2430096-1	JNS O-Ring SNG 38999 Shell 11 & 12	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	0.988	25.1	-55 – 160	-67 – 320	11
2430097-1	JNS O-Ring SNG 38999 Shell 13 & 14	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	1.114	28.3	-55 – 160	-67 – 320	13
2430098-1	JNS O-Ring SNG 38999 Shell 15 & 16	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	1.24	31.5	-55 – 160	-67 – 320	15
2430099-1	JNS O-Ring SNG 38999 Shell 17 & 18	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	1.366	34.7	-55 – 160	-67 – 320	17
2430100-1	JNS O-Ring SNG 38999 Shell 19 & 20	Nickel Plated Graphite (Ni/C)	No	.05	0.102	2.6	1.476	37.8	-55 – 160	-67 – 320	19
2430101-1	JNS O-Ring SNG 38999 Shell 21 & 22	Nickel Plated Graphite (Ni/C)	No	.05	0.102	2.6	1.61	40.9	-55 – 160	-67 – 320	21
2430102-1	JNS O-Ring SNG 38999 Shell 23 & 24	Nickel Plated Graphite (Ni/C)	No	.05	0.102	2.6	1.736	44.1	-55 – 160	-67 – 320	23
2430103-1	JNS O-Ring SNG 38999 Shell 25	Nickel Plated Graphite (Ni/C)	No	.05	0.102	2.6	1.862	47.3	-55 – 160	-67 – 320	25
2430104-1	JNS O-Ring FNG 38999 Shell 6	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	0.551	14	-55 – 160	-67 – 320	6
2430105-1	JNS O-Ring FNG 38999 Shell 8	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	0.677	17.2	-55 – 160	-67 – 320	8
2430106-1	JNS O-Ring FNG 38999 Shell 9 & 10	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	0.803	20.4	-55 – 160	-67 – 320	9
2430107-1	JNS O-Ring FNG 38999 Shell 11 & 12	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	0.988	25.1	-55 – 160	-67 – 320	11
2430108-1	JNS O-Ring FNG 38999 Shell 13 & 14	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	1.114	28.3	-55 – 160	-67 – 320	13
2430109-1	JNS O-Ring FNG 38999 Shell 15 & 16	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	1.24	31.5	-55 – 160	-67 – 320	15
2430110-1	JNS O-Ring FNG 38999 Shell 17 & 18	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	1.366	34.7	-55 – 160	-67 – 320	17
2430111-1	JNS O-Ring FNG 38999 Shell 19 & 20	Nickel Plated Graphite (Ni/C)	Yes	.05	0.102	2.6	1.476	37.8	-55 – 160	-67 – 320	19
2430112-1	JNS O-Ring FNG 38999 Shell 21 & 22	Nickel Plated Graphite (Ni/C)	Yes	.05	0.102	2.6	1.61	40.9	-55 – 160	-67 – 320	21
2430113-1	JNS O-Ring FNG 38999 Shell 23 & 24	Nickel Plated Graphite (Ni/C)	Yes	.05	0.102	2.6	1.736	44.1	-55 – 160	-67 – 320	23
2430114-1	JNS O-Ring FNG 38999 Shell 25	Nickel Plated Graphite (Ni/C)	Yes	.05	0.102	2.6	1.862	47.3	-55 – 160	-67 – 320	25
2430115-1	JNS O-Ring SSA 38999 Shell 6	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	0.551	14	-55 – 160	-67 – 320	6

MIL-DTL-38999 / MIL-DTL-26482 (Cont.)

TCPN	PART DESCRIPTION	FILLER MATERIAL	PETROLEUM RESISTANCE	VOLUME RESISTIVITY (MAX) (OHMCM)	CROSS SECTION DIAMETER [INCH]	CROSS SECTION DIAMETER [MM]	INSIDE DIAMETER (INCH)	INSIDE DIAMETER (MM)	OPERATING TEMPERATURE RANGE (C°)	OPERATING TEMPERATURE RANGE (F°)	SHELL SIZE
2430116-1	JNS O-Ring SSA 38999 Shell 8	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	0.677	17.2	-55 – 160	-67 – 320	8
2430117-1	JNS O-Ring SSA 38999 Shell 9 & 10	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	0.803	20.4	-55 – 160	-67 – 320	9
2430118-1	JNS O-Ring SSA 38999 Shell 11 & 12	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	0.988	25.1	-55 – 160	-67 – 320	11
2430119-1	JNS O-Ring SSA 38999 Shell 13 & 14	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	1.114	28.3	-55 – 160	-67 – 320	13
2430120-1	JNS O-Ring SSA 38999 Shell 15 & 16	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	1.24	31.5	-55 – 160	-67 – 320	15
2430121-1	JNS O-Ring SSA 38999 Shell 17 & 18	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	1.366	34.7	-55 – 160	-67 – 320	17
2430122-1	JNS O-Ring SSA 38999 Shell 19 & 20	Silver Plated Aluminum (Ag/Al)	No	.008	0.102	2.6	1.476	37.8	-55 – 160	-67 – 320	19
2430123-1	JNS O-Ring SSA 38999 Shell 21 & 22	Silver Plated Aluminum (Ag/Al)	No	.008	0.102	2.6	1.61	40.9	-55 – 160	-67 – 320	21
2430124-1	JNS O-Ring SSA 38999 Shell 23 & 24	Silver Plated Aluminum (Ag/Al)	No	.008	0.102	2.6	1.736	44.1	-55 – 160	-67 – 320	23
2430125-1	JNS O-Ring SSA 38999 Shell 25	Silver Plated Aluminum (Ag/Al)	No	.008	0.102	2.6	1.862	47.3	-55 – 160	-67 – 320	25
2430126-1	JNS O-Ring FSA 38999 Shell 6	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	0.551	14	-55 – 160	-67 – 320	6
2430127-1	JNS O-Ring FSA 38999 Shell 8	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	0.677	17.2	-55 – 160	-67 – 320	8
2430128-1	JNS O-Ring FSA 38999 Shell 9 & 10	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	0.803	20.4	-55 – 160	-67 – 320	9
2430129-1	JNS O-Ring FSA 38999 Shell 11 & 12	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	0.988	25.1	-55 – 160	-67 – 320	11
2430130-1	JNS O-Ring FSA 38999 Shell 13 & 14	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	1.114	28.3	-55 – 160	-67 – 320	13
2430131-1	JNS O-Ring FSA 38999 Shell 15 & 16	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	1.24	31.5	-55 – 160	-67 – 320	15
2430132-1	JNS O-Ring FSA 38999 Shell 17 & 18	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	1.366	34.7	-55 – 160	-67 – 320	17
2430133-1	JNS O-Ring FSA 38999 Shell 19 & 20	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.102	2.6	1.476	37.8	-55 – 160	-67 – 320	19
2430134-1	JNS O-Ring FSA 38999 Shell 21 & 22	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.102	2.6	1.61	40.9	-55 – 160	-67 – 320	21
2430135-1	JNS O-Ring FSA 38999 Shell 23 & 24	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.102	2.6	1.736	44.1	-55 – 160	-67 – 320	23
2430136-1	JNS O-Ring FSA 38999 Shell 25	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.102	2.6	1.862	47.3	-55 – 160	-67 – 320	25

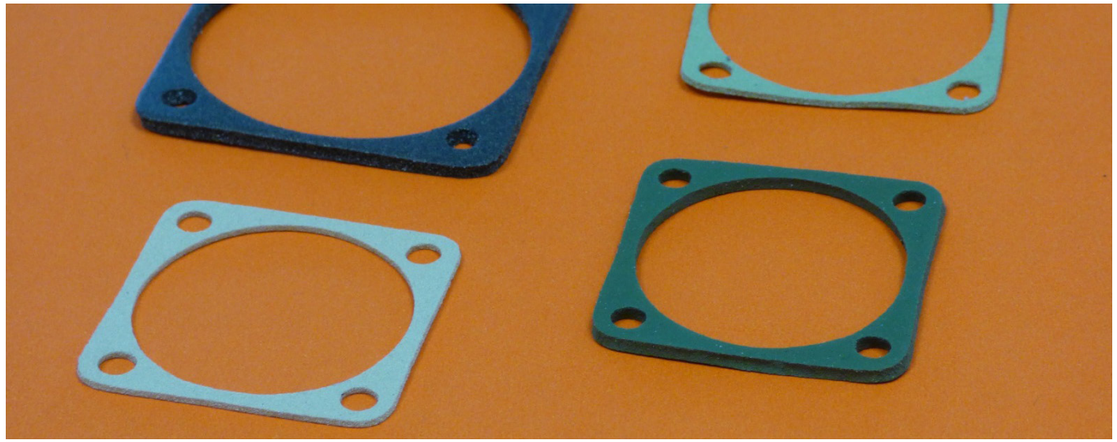
MIL-DTL-38999 / MIL-DTL-26482 (Cont.)

TCPN	PART DESCRIPTION	FILLER MATERIAL	PETROLEUM RESISTANCE	VOLUME RESISTIVITY (MAX) (OHMCM)	CROSS SECTION DIAMETER [INCH]	CROSS SECTION DIAMETER [MM]	INSIDE DIAMETER (INCH)	INSIDE DIAMETER (MM)	OPERATING TEMPERATURE RANGE (C°)	OPERATING TEMPERATURE RANGE (F°)	SHELL SIZE
2488724-1	JNS O-Ring SNA 38999 Shell 6	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	0.551	14	-55 - 125	-67 - 257	6
2488725-1	JNS O-Ring SNA 38999 Shell 8	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	0.677	17.2	-55 - 125	-67 - 257	8
2488726-1	JNS O-Ring SNA 38999 Shell 9 & 10	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	0.803	20.4	-55 - 125	-67 - 257	9
2488727-1	JNS O-Ring SNA 38999 Shell 11 & 12	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	0.988	25.1	-55 - 125	-67 - 257	11
2488728-1	JNS O-Ring SNA 38999 Shell 13 & 14	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	1.114	28.3	-55 - 125	-67 - 257	13
2488729-1	JNS O-Ring SNA 38999 Shell 15 & 16	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	1.24	31.5	-55 - 125	-67 - 257	15
2488730-1	JNS O-Ring SNA 38999 Shell 17 & 18	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.071	1.8	1.366	34.7	-55 - 125	-67 - 257	17
2488731-1	JNS O-Ring SNA 38999 Shell 19 & 20	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.102	2.6	1.476	37.8	-55 - 125	-67 - 257	19
2488732-1	JNS O-Ring SNA 38999 Shell 21 &22	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.102	2.6	1.61	40.9	-55 - 125	-67 - 257	21
2488733-1	JNS O-Ring SNA 38999 Shell 23 & 24	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.102	2.6	1.736	44.1	-55 - 125	-67 - 257	23
2488734-1	JNS O-Ring SNA 38999 Shell 25	Nickel Plated Aluminium (Ni/Al)	No	0.1	0.102	2.6	1.862	47.3	-55 - 125	-67 - 257	25
2488735-1	JNS O-Ring FNA 38999 Shell 6	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	0.551	14	-55 - 125	-67 - 257	6
2488736-1	JNS O-Ring FNA 38999 Shell 8	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	0.677	17.2	-55 - 125	-67 - 257	8
2488737-1	JNS O-Ring FNA 38999 Shell 9 & 10	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	0.803	20.4	-55 - 125	-67 - 257	9
2488738-1	JNS O-Ring FNA 38999 Shell 11 & 12	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	0.988	25.1	-55 - 125	-67 - 257	11
2488739-1	JNS O-Ring FNA 38999 Shell 13 & 14	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	1.114	28.3	-55 - 125	-67 - 257	13
2488740-1	JNS O-Ring FNA 38999 Shell 15 & 16	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	1.24	31.5	-55 - 125	-67 - 257	15
2488741-1	JNS O-Ring FNA 38999 Shell 17 & 18	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.071	1.8	1.366	34.7	-55 - 125	-67 - 257	17
2488742-1	JNS O-Ring FNA 38999 Shell 19 & 20	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.102	2.6	1.476	37.8	-55 - 125	-67 - 257	19
2488743-1	JNS O-Ring FNA 38999 Shell 21 &22	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.102	2.6	1.61	40.9	-55 - 125	-67 - 257	21
2488744-1	JNS O-Ring FNA 38999 Shell 23 & 24	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.102	2.6	1.736	44.1	-55 - 125	-67 - 257	23
2488745-1	JNS O-Ring FNA 38999 Shell 25	Nickel Plated Aluminium (Ni/Al)	Yes	0.1	0.102	2.6	1.862	47.3	-55 - 125	-67 - 257	25

MIL-DTL-81511

TCPN	PART DESCRIPTION	FILLER MATERIAL	PETROLEUM RESISTANCE	VOLUME RESISTIVITY (MAX) (OHMCM)	CROSS SECTION DIAMETER [INCH]	CROSS SECTION DIAMETER [MM]	INSIDE DIAMETER (INCH)	INSIDE DIAMETER (MM)	OPERATING TEMPERATURE RANGE (C°)	OPERATING TEMPERATURE RANGE (F°)	SHELL SIZE
2430221-1	JNS O-Ring SNG 81511 Shell 8	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	0.74	18.8	-55 - 160	-67 - 320	8
2430222-1	JNS O-Ring SNG 81511 Shell 9 & 10	Nickel Plated Graphite (Ni/C)	No	.05	0.071	1.8	0.866	22	-55 - 160	-67 - 320	9
2430223-1	JNS O-Ring FNG 81511 Shell 8	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	0.74	18.8	-55 - 160	-67 - 320	8
2430224-1	JNS O-Ring FNG 81511 Shell 9 & 10	Nickel Plated Graphite (Ni/C)	Yes	.05	0.071	1.8	0.866	22	-55 - 160	-67 - 320	9
2430225-1	JNS O-Ring SSA 81511 Shell 8	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	0.74	18.8	-55 - 160	-67 - 320	8
2430226-1	JNS O-Ring SSA 81511 Shell 9 & 10	Silver Plated Aluminum (Ag/Al)	No	.008	0.071	1.8	0.866	22	-55 - 160	-67 - 320	9
2430227-1	JNS O-Ring FSA 81511 Shell 8	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	0.74	18.8	-55 - 160	-67 - 320	8
2430228-1	JNS O-Ring FSA 81511 Shell 9 & 10	Silver Plated Aluminum (Ag/Al)	Yes	.012	0.071	1.8	0.866	22	-55 - 160	-67 - 320	9

CONNECTOR GASKETS FOR RFI/EMI SHIELDING

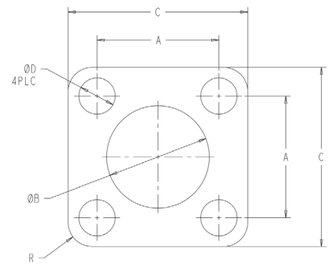


Product Overview

TE Connectivity, manufactures a range of gaskets to suit many standard size connectors which require an EMI/RFI gasket with optional environmental seals or sealing. The choice of materials is vast and connector gaskets are available from virtually all of the flat sheet EMI materials manufactured by TE Connectivity. Listed below are a range of gaskets available from our own tools, including a list of the more common materials and thicknesses. If those listed below do not meet with your exact requirements, we would be pleased to manufacture gaskets to your own design using inexpensive tooling.

Material Codes

Test Specification/Material Code	Silicone Nickel Graphite (SNG)	Silicone Silver Aluminum (SSA)	Fluorosilicone Nickel Graphite (FNG)	Fluorosilicone Silver Aluminum (FSA)
Recommended operating temperature range (°C)	-55 to 160	-55 to 160	-55 to 160	-55 to 160
Specific Gravity +/- 13%	2.000	2.000	2.200	2.000
Shore A Hardness +/- 7	65	65	65	70
Maximum Volume Resistivity (Ω. CM)	0.05	0.008	0.05	0.012



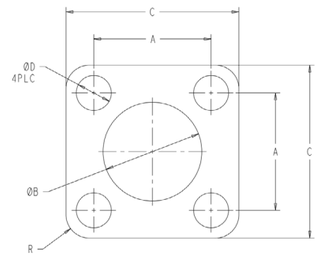
92-Part Numbers - MIL-DTL-5015

MATERIAL	SHELL SIZE	A (mm)	B (mm)	C (mm)	D (mm)	Radius (mm)	PART NUMBER
FSA	8	15.09	12.7	22.23	4.5	3	2424017-1
FSA	10	18.26	15.88	25.4	4.5	3	2424018-1
FSA	12	20.65	19.05	27.79	4.5	4	2424019-1
FSA	14	23.01	22.23	30.18	4.5	5	2424020-1
FSA	16	24.61	25.4	32.54	4.5	5.5	2424021-1
FSA	18	26.97	28.58	34.93	5	4.5	2424022-1
FSA	20	29.36	31.75	38.1	5	4.5	2424023-1
FSA	22	31.75	34.93	41.28	5	4.5	2424024-1
FSA	24	34.93	38.1	44.45	5.5	4.5	2424025-1
FSA	28	39.67	44.45	50.8	5.5	4.5	2424026-1
FSA	32	44.45	50.8	57.15	6	4.5	2424027-1
FSA	36	49.23	55.58	63.5	6	4.5	2424028-1
FSA	40	55.58	61.93	69.85	6	4.5	2424029-1
FSA	44	60.33	70.64	76.2	6	4.5	2424030-1
FSA	48	66.68	76.99	82.55	6	4.5	2424031-1
SSA	8	15.09	12.7	22.23	4.5	3	2423975-1
SSA	10	18.26	15.88	25.4	4.5	3	2423976-1
SSA	12	20.65	19.05	27.79	4.5	4	2423977-1
SSA	14	23.01	22.23	30.18	4.5	5	2423978-1
SSA	16	24.61	25.4	32.54	4.5	5.5	2423979-1
SSA	18	26.97	28.58	34.93	5	4.5	2423980-1
SSA	20	29.36	31.75	38.1	5	4.5	2423981-1
SSA	22	31.75	34.93	41.28	5	4.5	2423982-1
SSA	24	34.93	38.1	44.45	5.5	4.5	2423983-1
SSA	28	39.67	44.45	50.8	5.5	4.5	2423984-1
SSA	32	44.45	50.8	57.15	6	4.5	2423985-1
SSA	36	49.23	55.58	63.5	6	4.5	2423986-1
SSA	40	55.58	61.93	69.85	6	4.5	2423987-1
SSA	44	60.33	70.64	76.2	6	4.5	2423988-1
SSA	48	66.68	76.99	82.55	6	4.5	2423989-1
FNG	8	15.09	12.7	22.23	4.5	3	2423934-1
FNG	10	18.26	15.88	25.4	4.5	3	2423935-1
FNG	12	20.65	19.05	27.79	4.5	4	2423936-1
FNG	14	23.01	22.23	30.18	4.5	5	2423937-1
FNG	16	24.61	25.4	32.54	4.5	5.5	2423938-1
FNG	18	26.97	28.58	34.93	5	4.5	2423939-1
FNG	20	29.36	31.75	38.1	5	4.5	2423940-1
FNG	22	31.75	34.93	41.28	5	4.5	2423941-1
FNG	24	34.93	38.1	44.45	5.5	4.5	2423942-1
FNG	28	39.67	44.45	50.8	5.5	4.5	2423943-1
FNG	32	44.45	50.8	57.15	6	4.5	2423944-1
FNG	36	49.23	55.58	63.5	6	4.5	2423945-1
FNG	40	55.58	61.93	69.85	6	4.5	2423946-1
FNG	44	60.33	70.64	76.2	6	4.5	2423947-1
FNG	48	66.68	76.99	82.55	6	4.5	2423948-1
SNG	8	15.09	12.7	22.23	4.5	3	2423893-1
SNG	10	18.26	15.88	25.4	4.5	3	2423894-1
SNG	12	20.65	19.05	27.79	4.5	4	2423895-1
SNG	14	23.01	22.23	30.18	4.5	5	2423896-1
SNG	16	24.61	25.4	32.54	4.5	5.5	2423897-1
SNG	18	26.97	28.58	34.93	5	4.5	2423898-1
SNG	20	29.36	31.75	38.1	5	4.5	2423899-1
SNG	22	31.75	34.93	41.28	5	4.5	2423900-1
SNG	24	34.93	38.1	44.45	5.5	4.5	2423901-1
SNG	28	39.67	44.45	50.8	5.5	4.5	2423902-1
SNG	32	44.45	50.8	57.15	6	4.5	2423903-1
SNG	36	49.23	55.58	63.5	6	4.5	2423904-1
SNG	40	55.58	61.93	69.85	6	4.5	2423905-1
SNG	44	60.33	70.64	76.2	6	4.5	2423906-1
SNG	48	66.68	76.99	82.55	6	4.5	2423907-1

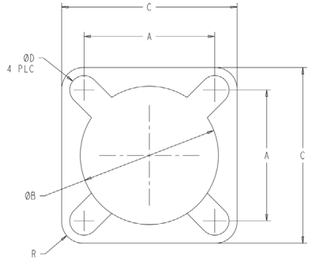
93-Part Numbers - MIL-DTL-38999

MATERIAL	SHELL SIZE	SERIES	A (mm)	B (mm)	C (mm)	D (mm)	Radius (mm)	PART NUMBER
FSA	25	III	38.1	44.7	47.63	4.5	5	2428016-1
FSA	25	I & IV	38.1	44.7	47.63	4.5	5	2424049-1
FSA	23/24	I, II & IV	34.93	41.53	44.45	4.5	5	2424047-1
FSA	23	III	34.93	41.53	44.45	4.5	5	2428012-1
FSA	21/22	I, II & IV	31.75	38.35	41.28	4	4	2424045-1
FSA	21	III	31.75	38.35	41.28	4	4	2428008-1
FSA	19/20	I, II & IV	29.36	35.18	38.1	4	4.5	2424043-1
FSA	19	III	29.36	35.18	38.1	4	4.5	2428004-1
FSA	17/18	I, II & IV	26.97	32.25	34.32	4	3.5	2424041-1
FSA	17	III	26.97	32.25	34.32	4	3.5	2428000-1
FSA	15/16	I, II & IV	24.61	29.05	31.95	4	3.5	2424039-1
FSA	15	III	24.61	29.05	31.95	4	3.5	2427996-1
FSA	13/14	I, II & IV	23.01	25.78	29.29	4	3.5	2424037-1
FSA	13	III	23.01	25.78	29.29	4	3.5	2427992-1
FSA	12/11	I & IV	20.62	22.48	26.92	4	3.5	2424035-1
FSA	11	III	20.62	22.48	26.92	4	3.5	2427988-1
FSA	10/9	I & II	18.26	19.3	24.51	4	3	2424033-1
FSA	9	III	18.26	19.3	24.51	4	3	2427984-1
FSA	8	II	15.09	16.25	21.34	4	1.5	2424032-1
SSA	25	III	38.1	44.7	47.63	4.5	5	2428014-1
SSA	25	I & IV	38.1	44.7	47.63	4.5	5	2424008-1
SSA	23/24	I. II & IV	34.93	41.53	44.45	4.5	5	2424006-1
SSA	23	III	34.93	41.53	44.45	4.5	5	2428010-1
SSA	21/22	I. II & IV	31.75	38.35	41.28	4	4	2424004-1
SSA	21	III	31.75	38.35	41.28	4	4	2428006-1
SSA	19/20	I. II & IV	29.36	35.18	38.1	4	4.5	2424002-1
SSA	19	III	29.36	35.18	38.1	4	4.5	2428002-1
SSA	17/18	I. II & IV	26.97	32.25	34.32	4	3.5	2423999-1
SSA	17	III	26.97	32.25	34.32	4	3.5	2427998-1
SSA	15/16	I. II & IV	24.61	29.05	31.95	4	3.5	2423997-1
SSA	15	III	24.61	29.05	31.95	4	3.5	2427994-1
SSA	13/14	I. II & IV	23.01	25.78	29.29	4	3.5	2423995-1
SSA	13	III	23.01	25.78	29.29	4	3.5	2427990-1
SSA	12/11	I. II & IV	20.62	22.48	26.92	4	3.5	2423993-1
SSA	11	III	20.62	22.48	26.92	4	3.5	2427986-1
SSA	10/9	I. II & IV	18.26	19.3	24.51	4	3	2423991-1
SSA	9	III	18.26	19.3	24.51	4	3	2427982-1
SSA	8	II	15.09	16.25	21.34	4	1.5	2423990-1

HOLE PROFILE (SERIES I, II & IV)



SLOT PROFILE (SERIES III)

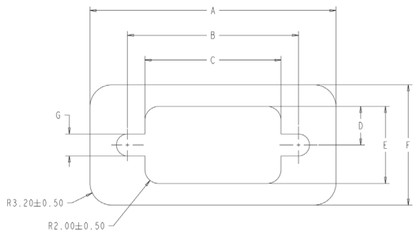


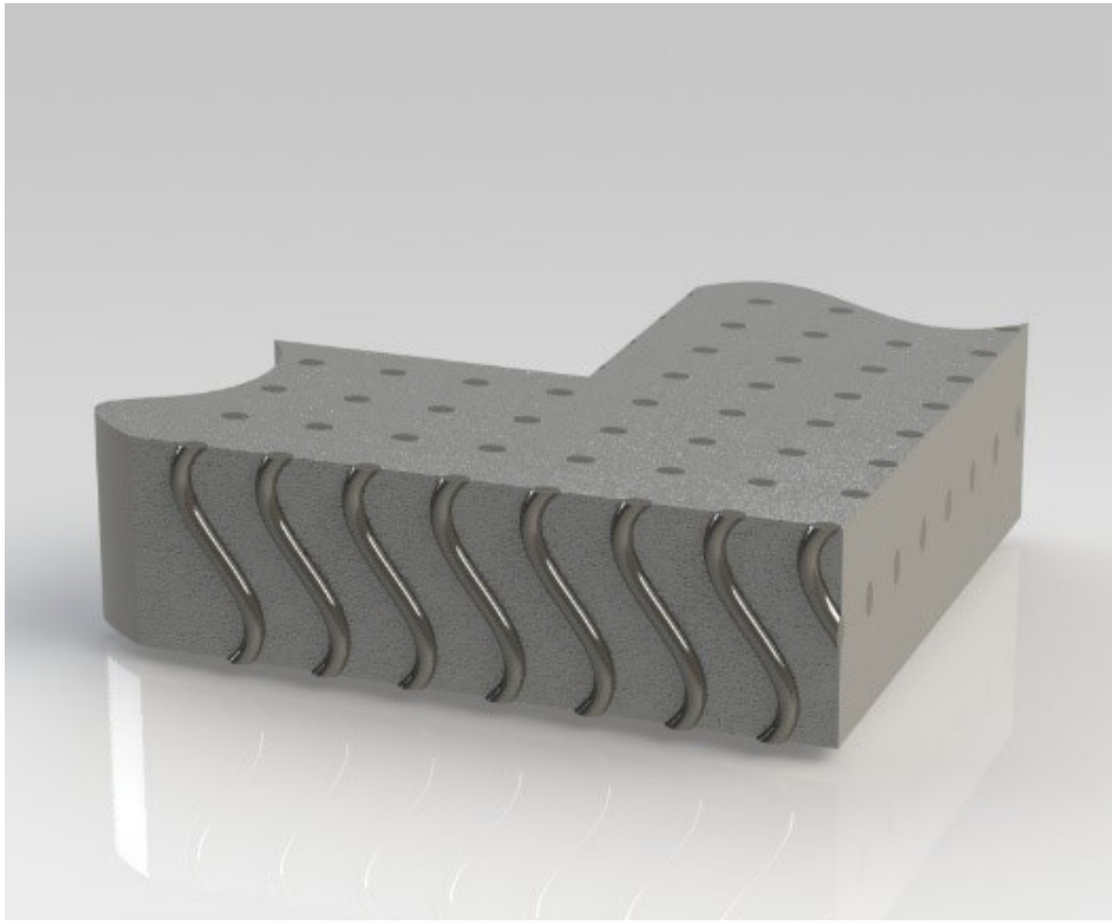
93-Part Numbers - MIL-DTL-38999

MATERIAL	SHELL SIZE	SERIES	A (mm)	B (mm)	C (mm)	D (mm)	Radius (mm)	PART NUMBER
FNG	25	III	38.1	44.7	47.63	4.5	5	2428015-1
FNG	25	I, II & IV	38.1	44.7	47.63	4.5	5	2423966-1
FNG	23/24	I, II & IV	34.93	41.53	44.45	4.5	5	2423964-1
FNG	23	III	34.93	41.53	44.45	4.5	5	2428011-1
FNG	21/22	I, II & IV	31.75	38.35	41.28	4	4	2423962-1
FNG	21	III	31.75	38.35	41.28	4	4	2428007-1
FNG	19/20	I, II & IV	29.36	35.18	38.1	4	4.5	2423960-1
FNG	19	III	29.36	35.18	38.1	4	4.5	2428003-1
FNG	17/18	I, II & IV	26.97	32.25	34.32	4	3.5	2423958-1
FNG	17	III	26.97	32.25	34.32	4	3.5	2427999-1
FNG	15/16	I, II & IV	24.61	29.05	31.95	4	3.5	2423956-1
FNG	15	III	24.61	29.05	31.95	4	3.5	2427995-1
FNG	13/14	I, II & IV	23.01	25.78	29.29	4	3.5	2423954-1
FNG	13	III	23.01	25.78	29.29	4	3.5	2427991-1
FNG	12/11	I, II & IV	20.62	22.48	26.92	4	3.5	2423952-1
FNG	11	III	20.62	22.48	26.92	4	3.5	2427987-1
FNG	10/9	I, II & IV	18.26	19.3	24.51	4	3	2423950-1
FNG	9	III	18.26	19.3	24.51	4	3	2427983-1
FNG	8	II	15.09	16.25	21.34	4	1.5	2423949-1
SNG	25	III	38.1	44.7	47.63	4.5	5	2428013-1
SNG	25	I & IV	38.1	44.7	47.63	4.5	5	2423925-1
SNG	23/24	I, II & IV	34.93	41.53	44.45	4.5	5	2423923-1
SNG	23	III	34.93	41.53	44.45	4.5	5	2428009-1
SNG	21/22	I, II & IV	31.75	38.35	41.28	4	4	2423921-1
SNG	21	III	31.75	38.35	41.28	4	4	2428005-1
SNG	19/20	I, II & IV	29.36	35.18	38.1	4	4.5	2423919-1
SNG	19	III	29.36	35.18	38.1	4	4.5	2428001-1
SNG	17/18	I, II & IV	26.97	32.25	34.32	4	3.5	2423917-1
SNG	17	III	26.97	32.25	34.32	4	3.5	2427997-1
SNG	15/16	I, II & IV	24.61	29.05	31.95	4	3.5	2423915-1
SNG	15	III	24.61	29.05	31.95	4	3.5	2427993-1
SNG	13/14	I, II & IV	23.01	25.78	29.29	4	3.5	2423913-1
SNG	13	III	23.01	25.78	29.29	4	3.5	2427989-1
SNG	12/11	I, II & IV	20.62	22.48	26.92	4	3.5	2423911-1
SNG	11	III	20.62	22.48	26.92	4	3.5	2427985-1
SNG	10/9	I & II	18.26	19.3	24.51	4	3	2423909-1
SNG	9	III	18.26	19.3	24.51	4	3	2427981-1
SNG	8	II	15.09	16.25	21.34	4	1.5	2423908-1

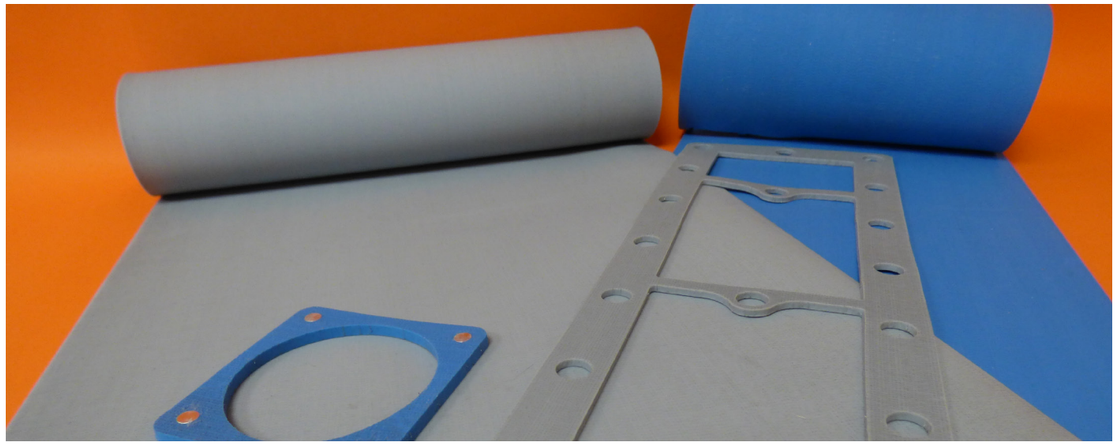
95 Connector D-Sub Part Numbers

MATERIAL	# OF PINS	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Radius (mm)	PART NUMBER
FSA	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	1.6	2430172-1
FSA	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	0.8	2430167-1
FSA	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	1.6	2430173-1
FSA	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	0.8	2430168-1
FSA	25	57.9	47	41.9	5.6	11.2	17.5	3.2	1.6	2430174-1
FSA	25	57.9	47	41.9	5.6	11.2	17.5	3.2	0.8	2430169-1
FSA	37	74.4	63.5	58.2	5.6	13.9	20.3	6.1	1.6	2430175-1
FSA	37	74.4	63.5	58.2	5.6	11.2	17.5	3.2	0.8	2430170-1
FSA	50	72.1	61.2	53.6	7.1	13.9	20.3	6.1	1.6	2430176-1
FSA	50	72.1	61.2	53.6	7.1	11.2	17.5	3.2	0.8	2430171-1
SSA	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	1.6	2430162-1
SSA	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	0.8	2430157-1
SSA	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	1.6	2430163-1
SSA	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	0.8	2430158-1
SSA	25	57.9	47	41.9	5.6	11.2	17.5	3.2	1.6	2430164-1
SSA	25	57.9	47	41.9	5.6	11.2	17.5	3.2	0.8	2430159-1
SSA	37	74.4	63.5	58.2	5.6	13.9	20.3	6.1	1.6	2430165-1
SSA	37	74.4	63.5	58.2	5.6	11.2	17.5	3.2	0.8	2430160-1
SSA	50	72.1	61.2	53.6	7.1	13.9	20.3	6.1	1.6	2430166-1
SSA	50	72.1	61.2	53.6	7.1	11.2	17.5	3.2	0.8	2430161-1
FNG	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	1.6	2430152-1
FNG	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	0.8	2430147-1
FNG	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	1.6	2430153-1
FNG	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	0.8	2430148-1
FNG	25	57.9	47	41.9	5.6	11.2	17.5	3.2	1.6	2430154-1
FNG	25	57.9	47	41.9	5.6	11.2	17.5	3.2	0.8	2430149-1
FNG	37	74.4	63.5	58.2	5.6	13.9	20.3	6.1	1.6	2430155-1
FNG	37	74.4	63.5	58.2	5.6	11.2	17.5	3.2	0.8	2430150-1
FNG	50	72.1	61.2	53.6	7.1	13.9	20.3	6.1	1.6	2430156-1
FNG	50	72.1	61.2	53.6	7.1	11.2	17.5	3.2	0.8	2430151-1
SNG	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	1.6	2430142-1
SNG	9	35.8	24.9	19.8	5.6	11.2	17.5	3.2	0.8	2430137-1
SNG	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	1.6	2430143-1
SNG	15	44.2	33.3	28.2	5.6	11.2	17.5	3.2	0.8	2430138-1
SNG	25	57.9	47	41.9	5.6	11.2	17.5	3.2	1.6	2430144-1
SNG	25	57.9	47	41.9	5.6	11.2	17.5	3.2	0.8	2430139-1
SNG	37	74.4	63.5	58.2	5.6	13.9	20.3	6.1	1.6	2430145-1
SNG	37	74.4	63.5	58.2	5.6	11.2	17.5	3.2	0.8	2430140-1
SNG	50	72.1	61.2	53.6	7.1	13.9	20.3	6.1	1.6	2430146-1
SNG	50	72.1	61.2	53.6	7.1	11.2	17.5	3.2	0.8	2430141-1





ORIENTED WIRE IN SILICONE AND FLUOROSILICONE RUBBER



Product Overview

Oriented wire in silicone is an RFI/EMI/EMP shielding gasket material. The sheets are available in a range of thicknesses. Each sheet contains thousands of thin Nickel Copper Alloy or aluminium wires that pass through the sheets thickness. These wires are crimped to form a slight zigzag which means that they do not drastically affect the compression forces required to make a seal. The wire types allow the designer to select the product best suited to their galvanic compatibility requirements. The softer blocks have a wire density of 100 wires/cm^2. The harder blocks have a wire density of 140 wires/cm^2. The wires are chemically bonded to the silicone or fluorosilicone during the manufacturing process. The elastomer provides the environmental sealing component, while the wires provide electrical grounding and the shielding aspect of the product. Under compression, the wires have bite into the mating surface and penetrate through thin oxide layers providing low contact resistance

A choice of silicone and wire variants are available allowing this product to be used in a wide range of applications. The three material groups are 410/420, 450/460, and 470/480.

410/420 grades are 40 Shore A solid silicone with Nickel Copper Alloy/aluminium wires. These grades are for use in applications where higher compression forces allow for better environmental sealing.

450/460 grades are 50 Shore A solid fluorosilicone with Nickel Copper Alloy/aluminium wires. These grades are available for use in environments where fuels/oils/hydraulic fluids and other contaminants are present.

470/480 grades are 20 Shore A soft silicone with Nickel Copper Alloy/aluminium wires. These grades are for applications that require lower compression forces. TE Connectivity developed these new grades of materials to fulfil a need that meets the performance of silicone sponge materials but with improved environmental sealing qualities. We have achieved this by using a very soft solid silicone with a reduced wire count of 100 wires per cm^2 which is the same as silicone sponge. The advantages of these new materials over silicone sponge are that we can manufacture increased sheet widths of up to 225mm with a minimum thickness of 0.8mm. Material consistency is a great advantage over silicone sponge as there is no uneven cell structure to consider that can affect moisture ingress and closure force.

Application

- A good solution for achieving RFI/EMI/EMP and environmental sealing in a single gasket
- Ideal for use as access panels, seals, connector gaskets etc
- Good conformity to allow for uneven surfaces

Availability

TE Connectivity. is now part of TE Connectivity, can offer a wide variety of options as the in-house manufactured material is cut from large blocks. The blocks are manufactured in either 150mm or 225mm widths. The sheets are cut using our high-speed slicer, enabling us to offer all thicknesses (subject to material type) to suit the customer's exact design requirement.

- Die-cut gaskets
- Large fabricated gaskets
- Sheet material
- Strip material available in continuous lengths
- Self-adhesive backing to allow for easy assembly
- Can be fitted with compression limit stops or collars
- Small gaskets can be punched in one operation, keeping production costs to a minimum
- Larger gaskets can be produced cost effectively and without the constraint of sheet size limitation from strips of material fabricated into the required finished shape, thus avoiding waste material from the centre of the gasket
- A fluorosilicone version is available for use in environments where fuels/oils/hydraulic fluids and other contaminants are present
- Solid silicone 410/420, for use in applications where higher compression forces allow for better environmental sealing
- Soft solid silicone 470/480 for applications that require lower compression forces

Design Considerations

It is important that oriented wire in silicone isn't over compressed. If the design of the equipment does not allow for any mechanical method of preventing over-compression, by means of a compression limiting stop, the gasket should be fitted with compression limiters. These can be either compression stops or collars. Stops and collars are normally manufactured in a material that is suitable for the galvanic compatibility requirements and take the form of precisely manufactured cylinders or washers.

There is no need for a conductive connection where strips or sheets are joined. This is because the wires forming the EMC contact run through the thickness of the sheet. An environmental seal is achieved by vulcanising the mating join with the corresponding silicone or fluorosilicone adhesive. The material is not suitable for frequent opening/closing or sliding applications. If your application requires this functionality, please contact your customer services representative at TE Connectivity or TE Connectivity.

Recommended compression: 15% to 20%

Tolerances:
Sheet Widths +0.0/-5mm
Thickness ± 0.13mm

When specifying an oriented wire in fluorosilicone (450/460): self-adhesive backing (SAB) is not recommended for use with this type of elastomer. This is due to the SAB's component chemical's ability to perform in line with the fluorosilicone elastomer. Typically, SAB is supplied with a shelf life of 6 months. Minimum material width should not be less than 2mm or at least the material thickness in any part of the gasket. If this cannot be achieved around fixing holes, consider using a slot. Particular attention is required if specifying compression collars in holes. Particular consideration must be given to compression forces (see data in this section) hole centres, size and number of fixings and rigidity of mating flanges.

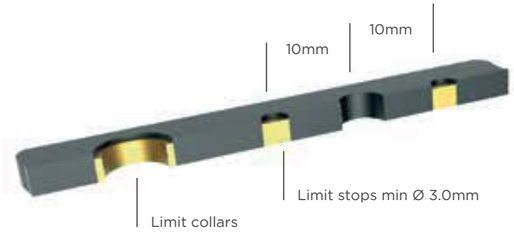
Production Capabilities

TE Connectivity. holds large stocks of raw material blocks, which are cut in-house on one of the most advanced slicing machines in Europe, and which enables us to produce bespoke gaskets economically and on time.

We are able to cut sheets up to 228mm wide by 1000mm long, whilst holding a parallel tolerance of ± 0.2mm and can apply self-adhesive backing prior to die cutting and or fabrication.

Gasket fabrication is a routine feature of our work, enabling us to produce economic gaskets by maximising material usage, without the limitations of sheet width. Joins are vulcanised using a silicone compound and overcompression stops or collars can be fitted to the gasket if required. Our in-house production facilities are suitable for prototype, short and medium production runs, up to commercial quantities.

Compression Limit Applications



Horseshoe Slot

Minimum Land

Typical Shielding Performance

Frequency	410/450	420/460	430/470	440/480
20 Mhz	94	95	94	94
40 Mhz	96	96	99	96
60 Mhz	100	97	99	100
80 Mhz	99	98	100	100
100 Mhz	111	105	109	111
200 Mhz	111	105	109	111
400 Mhz	112	107	105	110
600 Mhz	110	103	102	108
800 Mhz	116	110	109	116
1 Ghz	111	111	107	111
2 Ghz	106	112	112	112
4 Ghz	98	97	95	101
6 Ghz	91	90	89	90
8 Ghz	90	90	87	92
10 Ghz	84	89	84	88

Typical Closing Force Required

Code	Material Thickness	Compression %	N/cm²
410/420	0.8mm	10%	17
	0.8mm	15%	36
	0.8mm	20%	49
	1.6mm	10%	20
	1.6mm	15%	45
	1.6mm	20%	81
	2.4mm	10%	58
	2.4mm	15%	83
	2.4mm	20%	97
450/460	0.8mm	10%	15
	0.8mm	15%	38
	0.8mm	20%	61
	1.6mm	10%	22
	1.6mm	15%	52
	1.6mm	20%	88
	2.4mm	10%	78
	2.4mm	15%	102
	2.4mm	20%	129
470/480	0.8mm	10%	14
	0.8mm	15%	27
	0.8mm	20%	36
	1.6mm	10%	37
	1.6mm	15%	43
	1.6mm	20%	65
	2.4mm	10%	41
	2.4mm	15%	45
	2.4mm	20%	55

* The above data is representative of results from tests and show forces that you should expect to experience. When using these figures you should allow for tolerances in the gasket material and also on the hardware. These figures are given as a guide only.

Dimensional Tolerances

- Linear ± 0.8mm
- Hole Centres ± 0.4mm
- Thickness ± 0.13mm
- Sheet length +/- 10 mm

Handling Considerations

Care should be taken when handling this material as any exposed metal points may scratch unprotected skin.

Material Types and Sizes

Part No.	Material	Min Thickness	Sheet Width(s)	Max Sheet Length
410	Nickel Copper Alloy wires in solid silicone	0.8mm	225mm (+0/-5)	1000mm
420	Aluminium wires in solid silicone	0.8mm	225mm (+0/-5)	1000mm
450	Nickel Copper Alloy wires in solid Fluorosilicone	0.8mm	150mm (+0/-5)	1000mm
460	Aluminium wires in solid Fluorosilicone	0.8mm	150mm (+0/-5)	1000mm
470	Nickel Copper Alloy wires in Soft solid Silicone	0.8mm	225mm (+0/-5)	1000mm
480	Aluminium wires in soft solid silicone	0.8mm	225mm (+0/-5)	1000mm

How to Order

To order strips use the material type number followed by the thickness and width (expressed as 4 digits to one decimal place). Add SAB to the end of the part number if you require self-adhesive backing.

Examples

420-0008-0032SAB = 0.8mm thick aluminum wires in solid silicone, width 3.2mm with self-adhesive backing.

Standard Strip Material

Material	Material Code
Nickel Copper Alloy wire in solid silicone	410
Aluminium wire in solid silicone	420
Nickel Copper Alloy in Solid Fluorosilicone	450
Aluminium in Solid Fluorosilicone	460
Nickel Copper Alloy wire in soft solid silicone	470
Aluminium wire in soft solid silicone	480

Height	Width	Material Code						Part No.
		410	420	450	460	470	480	
0.8mm	3.2mm							0008-0032
0.8mm	4.8mm							0008-0048
0.8mm	6.4mm							0008-0064
0.8mm	9.5mm							0008-0095
0.8mm	12.7mm							0008-0127
1.6mm	4.8mm							0016-0048
1.6mm	6.4mm							0016-0064
1.6mm	9.5mm							0016-0095
1.6mm	12.7mm							0016-0127
1.6mm	15.9mm							0016-0159
1.6mm	19.1mm							0016-0191
2.4mm	4.8mm							0024-0048
2.4mm	6.4mm							0024-0064
2.4mm	9.5mm							0024-0095
2.4mm	12.7mm							0024-0127
2.4mm	15.9mm							0024-0159
2.4mm	19.1mm							0024-0191

Material Specifications

Wire	
Nickel Copper Alloy	BS 3075 NA13 – QQ-N-281-B
Aluminium	BS EN 573 pt3 – Alloy 5056

Elastomers	Specifications	Temp Range	Colour
Silicone Solid	A-A-59588	-60°C to 200°C	Light Grey
Soft Silicone Solid	A-A-59588	-60°C to 200°C	Light Grey
Fluorosolicone	MIL-R-25988 G 50	-55°C to 200°C	Blue

Test	Standard	Solid Silicone
Tensile strength	ASTM D412	2.5 MPa
Elongation	ASTM D412	250%

KNITTED WIRE MESH

KNITTED WIRE MESH

Overview

TE Connectivity, manufactures a range of knitted wire mesh products, providing a cost-effective solution to high shielding performance applications in both the magnetic and electrical fields.

These products are manufactured on a circular wire knitting machine using a single wire. The mono-filament interlocking-loop construction gives strength while allowing it to conform to almost any size or shape. The range of solid knitted wire mesh products are not suitable in applications that require regular opening and closing. If you require this feature please look at products with a sponge elastomer core.

Solid knitted mesh products provide an excellent radio frequency interference (RFI)/electromagnetic interference (EMI) shield between two metallic surfaces. A range of wire types is available to allow for good galvanic compatibility thereby reducing or limiting the possibility of corrosion.

TE Connectivity's knitted wire mesh is available in 2 options

- Solid Knitted Wire Mesh
- Elastomer Cored Knitted Wire Mesh

Summary	Solid Knitted	Elastomer Cored Knitted Wire Mesh
RFI/EMI shield	●	●
EMP survivability	●	●
Environmental seal	Dust only	Dust only
Frequent opening	●	●
Continuous lengths	●	●
Cut to length	●	●
Fabricated gasket	●	●
Mesh over elastomer core		●

Production Capabilities

TE Connectivity has developed its knitted wire mesh production facility and expertise in this area to enable it to produce RFI/EMI gaskets in a wide range of materials and in many different size configurations. Together with our extensive fabrication capabilities and large stocks of raw materials, we can manufacture knitted wire mesh gaskets to suit many applications that support electromagnetic pulse (EMP) survivability.

We offer a bespoke service, which can also produce economical gaskets, with good delivery times, in prototype quantities or for short, medium or large commercial production runs.

SOLID KNITTED WIRE MESH

Product Overview

The product consists of a knitted wire that is formed into an all wire profile forming a continuous gasket strip.

Application

Solid knitted mesh gaskets provide an excellent RFI/EMI gasket shield between two metallic surfaces and with the choice of wire mesh material available allows for a good galvanic match with mating flanges, thereby limiting the possibility of corrosion between gasket and flange.

- RFI/EMI applications
- Panel seals in screened rooms
- Areas with infrequent access
- Cable Shielding (Wrapping with flat bandage)

Availability

- In continuous lengths, cut to length in continuous lengths or cut to length
- Variety of profiles and sizes available
- Self adhesive backing is not recommended with this version of mesh

Design Considerations

- Consideration should be given to the termination of cut mesh ends. Sometimes loose wires are evident after cutting. If you choose to cut the mesh yourself loose wires can be avoided by:

  - Dipping the end in glue

  - Spot welding the cut end

  - Sewing the cut end

- Sufficient compression forces are required to achieve good contact. Contact seal between the metalwork
- Galvanic compatibility can be achieved by choosing a suitable wire type
- Water and moisture sealing is not possible with this product. However it does offer a limited dust seal
- Solid knitted wire mesh suffers from compression set. So it is not recommended for frequent opening of panels. If you require this feature, refer to the knitted wire mesh over an elastomer core section

Typical Shielding Performance

H Field (Magnetic)				
	10 kHz	100 kHz	1.0 MHz	10.0 MHz
Nickel Copper Alloy	28	45	64	>104
TCS	47	67	88	>104
S/St	35	43	50	

E Field (Electric)				
	0.1 MHz	1.0 MHz	10.0 MHz	100 MHz
Nickel Copper Alloy	>118	>136	>123	99
TCS	>118	>136	>126	109
S/St	119	102		

P Field (Plain Wave)			
	400 MHz	1.0 GHz	10.0 GHz
Nickel Copper Alloy	96	84	46
TCS	98	77	43
S/St	85	62	36

Materials

Nickel Copper Alloy 400 Wire (Mon)

Wire diameter 0.11mm
UK Specification to BS3075 NA13
USA Specification to AMS 4730

Tin Plated Copper Clad Steel (TCS)

Wire diameter 0.11mm
UK Specification, BS4087*, BS EN 50117-10-1*
USA Specification ASTM B277*, ASTM B452*,
ASTM B520, ASTM B33*, AISI 1010

* There is no complete specification for this material.
Processes have been derived from parts of the above where applicable.

Stainless Steel (S/St)

UK Specification BS EN 10088-3 2005 316 S19
Wire diameter 0.11mm

Tolerances

- Width & Height ± 0.8mm
- Diameter ± 0.8mm
- Fin Dimensions ± 1.5mm

Flat Bandage

Note: This product is approx 0.5mm thick.

Profile

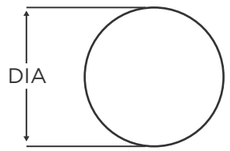
Material Codes Part Number

Width	Mon	TCS	S/St
	142	144	146
12.7mm	2423849-1	2423852-1	2423855-1
25.4mm	2423850-1	2423853-1	2423856-1
50.8mm	2423851-1	2423854-1	2423857-1

All products shown will be supplied in 25m length
Other sizes are available on request

Round

Profile



Material Codes/Part Number

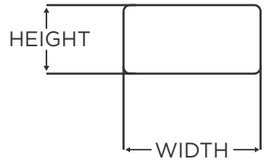
Diameter	Mon	TCS	S/St
	112	114	116
2.4mm	2423830-1	2423833-1	2423836-1
3.2mm	2423831-1	2423834-1	2423837-1
4.8mm	2423832-1	2423835-1	2423838-1

Other sizes are available on request

Diameter	Mon	TCS	S/St	Alu	Part No.
	112	114	116	118	
1.6mm					0016
2.4mm					0024
3.2mm					0032
4.8mm					0048
5.4mm					0064
8.0mm					0080
9.5mm					0095
12.7mm					0127

Rectangular

Profile



Material Codes/Part Number

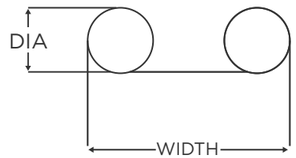
Height	Width	Mon	TCS	S/St
		132	134	136
2.4mm	4.8mm	2423839-1	2423842-1	2423845-1
3.3mm	3.2mm	2423840-1	2423843-1	2423846-1
3.2mm	6.4mm	2423841-1	2423844-1	2423847-1

Other sizes are available on request

Height	Width	Mon	TCS	S/St	Alu	Part No.
		132	134	136	138	
1.6mm	1.6mm					0016-0016
1.6mm	2.4mm					0016-0024
1.6mm	3.2mm					0016-0032
1.6mm	4.8mm					0016-0048
2.4mm	2.4mm					0024-0024
2.4mm	3.2mm					0024-0032
2.4mm	4.8mm					0024-0048
3.2mm	3.2mm					0032-0032
3.2mm	4.8mm					0032-0048
3.2mm	6.4mm					0032-0064
3.2mm	9.5mm					0032-0095
4.8mm	4.8mm					0048-0048
4.8mm	6.4mm					0048-0064
4.8mm	9.5mm					0048-0095
6.4mm	6.4mm					0064-0064
6.4mm	9.5mm					0064-0095
9.5mm	9.5mm					0095-0095

Twin Round with FIn

Profile



Material Codes/Part Number

Diameter	Width	Mon	TCS
		152	154
3.2mm	25.4mm	2423858-1	2423861-1
4.8mm	25.4mm	2423859-1	2423862-1
6.4mm	25.4mm	2423860-1	2423863-1

Other sizes are available on request

Diameter	Width	Mon	TCS	S/St	Alu	Part No.
		152	154	156	158	
3.2mm	12.7mm					0032-0127
3.2mm	19.1mm					0032-0191
3.2mm	25.4mm					0032-0254
4.8mm	19.1mm					0048-0191
4.8mm	25.4mm					0048-0254
6.4mm	19.1mm					0064-0191
6.4mm	25.4mm					0064-0254

KNITTED WIRE MESH OVER AN ELASTOMER CORE

Product Overview

This product is a knitted wire mesh over an elastomer core such as silicone cellular profile. Usually this consists of 2 layers of knitting over the elastomer core. The knitted mesh is then formed into the selected profile making a continuous gasket strip which is flexible and compressible and which makes an excellent RFI/EMI gasket.

Application

In addition to making an excellent EMI/RFI shield between two metallic surfaces the choice of wire mesh material available also allows for a good galvanic match with mating flanges, thereby limiting the possibility of corrosion between gasket and flange. Further, the elastomer core of the gasket allows it to be compressed using low to medium force conforming to uneven surfaces and recovering well after use.

- Groove gaskets such as O-rings
- Due to its resiliency and low compression force, ideal for use in situations where repeated opening and closing operations are necessary

Availability

- In continuous lengths
- Cut to length
- Variety of profiles and sizes
- Selection of wire to meet galvanic compatibility requirements
- A selection of elastomer cores are available to meet conditions such as temperature range, compression set, compression force
- Self adhesive backing is not recommended with this type of product

Design Considerations

- Consideration should be given to the termination of cut mesh ends. Sometimes loose wires are evident after cutting. If you choose to cut the mesh yourself loose wires can be avoided by:
  - Dipping the end in glue
  - Spot welding the cut end
  - Sewing the cut end
- Compression forces required to allow good contact. Also the rigidity of the host metalwork
- Galvanic compatibility can be achieved by choosing a suitable wire type
- Water and moisture sealing is not possible with this product. However, it does offer a limited dust seal

Typical Shielding Performance

H Field (Magnetic)				
	10 kHz	100 kHz	1.0 MHz	10.0 MHz
Nickel Copper Alloy	28	45	64	>104
TCS	47	67	88	>104
S/St	35	43	50	

E Field (Electric)				
	0.1 MHz	1.0 MHz	10.0 MHz	100 MHz
Nickel Copper Alloy	>118	>136	>123	99
TCS	>118	>136	>126	109
S/St	119	102		

P Field (Plain Wave)			
	400 MHz	1.0 GHz	10.0 GHz
Nickel Copper Alloy	96	84	46
TCS	98	77	43
S/St	85	62	36

Materials

Nickel Copper Alloy 400 Wire (Mon)
Wire diameter 0.11mm
UK Specification to BS3075 NA13
USA Specification to AMS 4730

Tin Plated Copper Clad Steel (TCS)
Wire diameter 0.11mm
UK Specification BS EN 50117-10-1*, BS4087*,
USA Specification ASTM B277*, ASTM B452*,
ASTM B520, ASTM B33*, AISI 1010

* There is no complete specification for this material. Processes have been derived from parts of the above where applicable.

Stainless Steel (S/St)
UK Specification BS EN 10088-3 2005 316 S19
Wire diameter 0.11mm

Sponge Silicone Rubber
USA Specification AMS 3195
Temperature range -50°C to +200°C
Service life >20 years

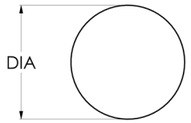
Tolerances on Rubbers

- Round and rectangular mesh sections ± 0.8mm
- Up to 2.0mm diameter or thickness ± 0.5mm
- 2.1mm to 10.0mm diameter or thickness ± 0.8mm
- Above 10.1mm diameter or thickness ± 1.5mm

Note: All sizes listed are that of the elastomer core. Allowances must be made for the wire mesh 1 layer approximately 0.4mm and 2 layers 0.8mm. All products will be supplied in a 25m length

Round Silicone Sponge Core

Profile



Material Codes/Part Number

Diameter	Mon	TCS	S/St
	212	214	216
2.4mm	2423864-1	2423868-1	2423872-1
3.2mm	2423865-1	2423869-1	2423873-1
4.8mm	2423866-1	2423870-1	2423874-1
6.4mm	2423867-1	2423871-1	2423875-1

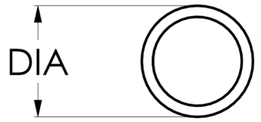
Material Codes

Diameter	Mon	TCS	S/St	Alu	Part No.
	218				
1.6mm					0016
2.4mm					0024
3.2mm					0032
4.8mm					0048
5.4mm					0064
8.0mm					0080
9.5mm					0095
12.7mm					0127

Other sizes are available on request

Round Silicone Tube Core

Profile

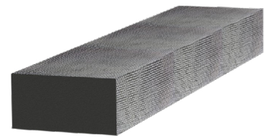


Material Codes

Diameter	Mon	TCS	S/St	Alu	Part No.
	242	244	246	248	
1.6mm					0016
2.4mm					0024
3.2mm					0032
4.8mm					0048
5.4mm					0064
8.0mm					0080
9.5mm					0095
12.7mm					0127

Other sizes are available on request

Rectangular Silicone Sponge Core



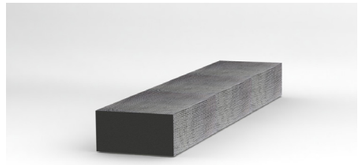
Profile

Material Codes/Part Number

Height	Width	Mon	TCS	S/St
		232	234	236
3.2mm	6.4mm	2423876-1	2423879-1	2423882-1
3.2mm	9.5mm	2423877-1	2423880-1	2423883-1
4.8mm	12.7mm	2423878-1	2423881-1	2423884-1

Height	Width	Mon	TCS	S/St	Alu	Part No.
		232	234	236	238	
3.2mm	3.2mm					0032-0032
3.2mm	4.8mm					0032-0048
3.2mm	6.4mm					0032-0064
3.2mm	9.5mm					0032-0095
3.2mm	12.7mm					0032-0127
4.8mm	4.8mm					0048-0048
4.8mm	6.4mm					0048-0064
4.8mm	9.5mm					0048-0095
4.8mm	12.7mm					0048-0127
6.4mm	6.4mm					0064-0064
6.4mm	9.5mm					0064-0095
6.4mm	12.7mm					0064-0127
9.5mm	9.5mm					0095-0095
9.5mm	12.7mm					0095-0127
12.7mm	12.7mm					0127-0127

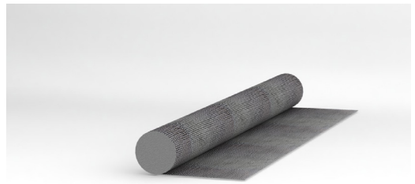
Rectangular Neoprene Sponge Core



Profile

Height	Width	Mon	TCS	S/St	Alu	Part No.
		282	284	286	288	
3.2mm	3.2mm					0032-0032
3.2mm	4.8mm					0032-0048
3.2mm	6.4mm					0032-0064
3.2mm	9.5mm					0032-0095
3.2mm	12.7mm					0032-0127
4.8mm	4.8mm					0048-0048
4.8mm	6.4mm					0048-0064
4.8mm	9.5mm					0048-0095
4.8mm	12.7mm					0048-0127
6.4mm	6.4mm					0064-0064
6.4mm	9.5mm					0064-0095
6.4mm	12.7mm					0064-0127
9.5mm	9.5mm					0095-0095
9.5mm	12.7mm					0095-0127
12.7mm	12.7mm					0127-0127

Round with Fin Silicone Sponge Core



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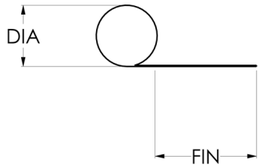
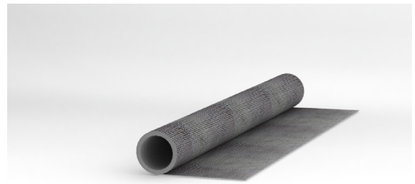


Material Codes

Diameter	Fin Width	Mon	TCS	S/St	Alu	Part No.
		222	224	226	228	
3.2mm	6.4mm					0032-0064
3.2mm	9.5mm					0032-0095
3.2mm	12.7mm					0032-0127
4.8mm	9.5mm					0048-0095
4.8mm	12.7mm					0048-0127
4.8mm	15.9mm					0048-0159
6.4mm	9.5mm					0064-0095
6.4mm	12.7mm					0064-0127
6.4mm	15.9mm					0064-0159
8.0mm	9.5mm					0080-0095
8.0mm	12.7mm					0080-0127
8.0mm	15.9mm					0080-0159
9.5mm	12.7mm					0095-0127
9.5mm	15.9mm					0095-0159
12.7mm	12.7mm					0127-0127

Other sizes are available on request

Round with Fin Silicone Tube Core



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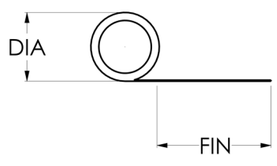


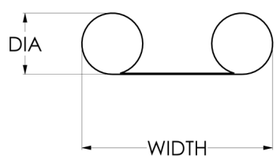
Material Codes

Diameter	Fin Width	Mon	TCS	S/St	Alu	Part No.
		252	254	256	258	
3.2mm	6.4mm					0032-0064
3.2mm	9.5mm					0032-0095
3.2mm	12.7mm					0032-0127
4.8mm	9.5mm					0048-0095
4.8mm	12.7mm					0048-0127
4.8mm	15.9mm					0048-0159
6.4mm	9.5mm					0064-0095
6.4mm	12.7mm					0064-0127
6.4mm	15.9mm					0064-0159
8.0mm	9.5mm					0080-0095
8.0mm	12.7mm					0080-0127
8.0mm	15.9mm					0080-0159
9.5mm	12.7mm					0095-0127
9.5mm	15.9mm					0095-0159
12.7mm	12.7mm					0127-0127

Other sizes are available on request

Twin Round with Fin Silicone Sponge Core

Profile



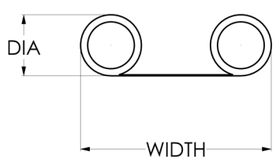
Material Codes

Diameter	Fin Width	Mon	TCS	S/St	Alu	Part No.
		262	264	266	268	
3.2mm	12.7mm					0032-0127
3.2mm	19.1mm					0032-0191
3.2mm	25.4mm					0032-0254
4.8mm	19.1mm					0048-0191
4.8mm	25.4mm					0048-0254
6.4mm	19.1mm					0064-0191
6.4mm	25.4mm					0064-0254

Other sizes are available on request

Twin Round with Fin Silicone Tube Core

Profile



Material Codes

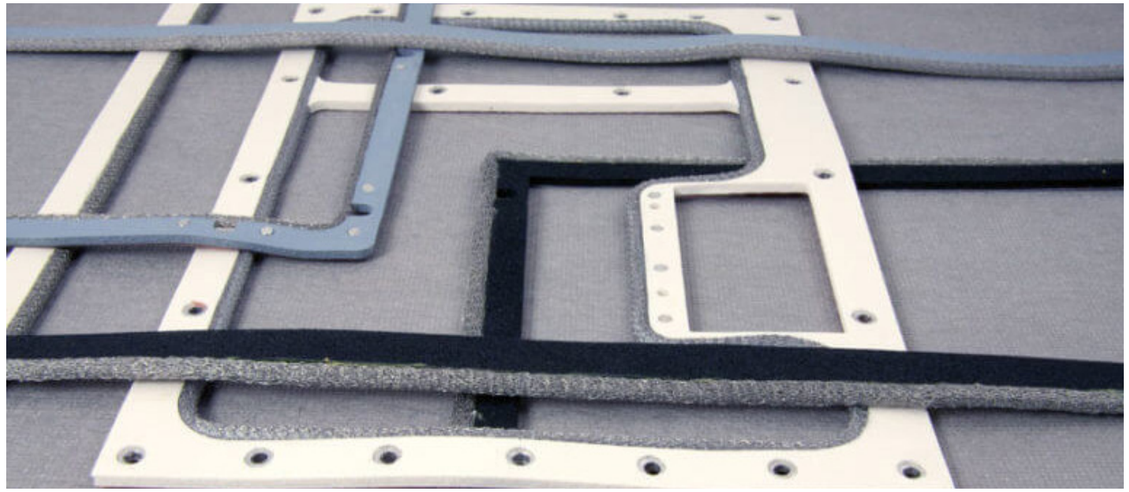
Diameter	Fin Width	Mon	TCS	S/St	Alu	Part No.
		262	264	266	268	
3.2mm	12.7mm					0032-0127
3.2mm	19.1mm					0032-0191
3.2mm	25.4mm					0032-0254
4.8mm	19.1mm					0048-0191
4.8mm	25.4mm					0048-0254
6.4mm	19.1mm					0064-0191
6.4mm	25.4mm					0064-0254

Other sizes are available on request

KNITTED WIRE MESH WITH AN ENVIRONMENTAL SEAL

Product Overview

Manufactured from either solid knitted wire mesh or knitted wire mesh over an elastomer core bonded to an elastomer environmental seal.



Application

This type of gasket is very suitable where a high level of shielding is required along with an environmental seal. Provides an economic approach to combination RFI/EMI/EMP and environmental sealing.

- Suitable for gaps with large tolerances
- Door seals
- Panel seals
- Due to its resiliency and low compression force, ideal for use in situations where repeated opening and closing operations are necessary

Availability

- Continuous lengths up to 10 mtrs long.
- Fabricated gaskets to customer's drawings
- Can be fitted with compression limit stops or collars
- Easily assembled using the optional self adhesive backing
- A broad range of sizes available
- A large range of materials to suit many RFI/EMI/EMP and climatic conditions including NBC
- Large fabricated gaskets can be produced economically
- UL flame retardant approved materials are also available

Design Considerations

- It is important that this material is not over-compressed. If the design of the equipment does not allow for any mechanical method of preventing over-compression, the gasket should be fitted with built-in compression limiters, either metal stops fitted to the gasket, or metal collars fitted into each fixing hole
- When specifying die cut gaskets minimum material width should not be less than 2mm or at least the material thickness in any part of the gasket. If this cannot be achieved around fixing holes consider using a slot. Particular attention is required if specifying compression collars in holes
- Particular consideration must be given to compression forces hole centres, size and number of fixings and rigidity of mating flanges.
- Consideration should be given to the termination of cut mesh ends. Sometimes loose wires are evident after cutting. TE Connectivity are experts at mesh termination however if you choose to
  - Dipping the end in glue
  - Spot welding the cut end
  - Sewing the cut end
- Galvanic compatibility. Select from a choice of wire

SURFACE MOUNTED GASKETS

With surface mounted elastomeric gaskets, the aim should be to limit the compression of the gasket to between 10% and 20%. 10% being the minimum with a solid silicone style of gasket. (Some form of compression stop or limit is essential with surface mounted gaskets to prevent over compression).

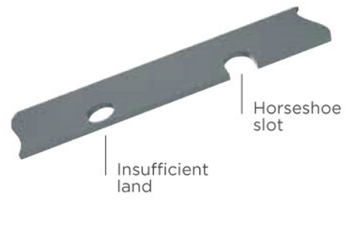
Compression stops can be built into many styles of gasket, or made as an integral part of the flange. Their height should equal that of the maximum compressed height of the gasket. Compression stops fitted into gaskets can be in the form of collars or washers so that fixing bolts can pass through them or as solid studs located either side of a fixing bolt.

The thickness of the gasket for a known application can be calculated as follows e.g. Consider a gasket which can be compressed between 10% and 25% to be used on flanges which are not perfectly flat, i.e. the flanges without gaskets touch at some points and leave gaps in others. Since the gasket will compress between 10% and 25% we will require 25% compression at the high points and 10% at the low points (the "gaps"). The greatest gap is therefore 15% of the gasket thickness. If that gap is 0.45mm, then a gasket of 3.0mm thickness is required.

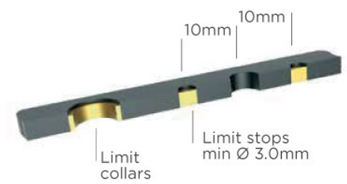
This is fine in theory provided that the flanges do not "bow" when placed under load. To overcome flange distortion, fixings may need to be added, the number of which will be determined by the flange stiffness/rigidity.

Minimum Land

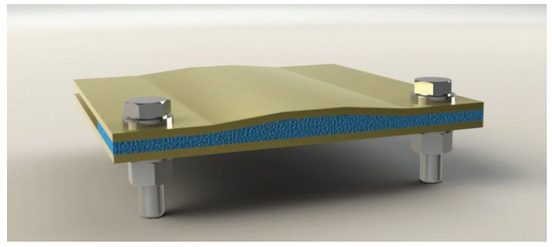
Horse Shoe Slot



Compression Limit Applications



Compression



Typical Shielding Performance

For 300 series as achieved by testing to MIL-STD 285 modified.

H Field				
MHz	**0.01**	**0.1**	**1.0**	**10.0**
Nickel Copper Alloy	28	45	64	>104
TCS	47	67	88	>104
S/St	35	43	50	
Aluminium	36	47	64	>104

E Field				
MHz	**0.01**	**0.1**	**1.0**	**100**
Nickel Copper Alloy	>118	>136	>123	99
TCS	>118	>136	>126	109
S/St	119	102		
Aluminium	>118	>136	>120	91

P Field			
MHz	**400**	**1000**	**10,000**
Nickel Copper Alloy	96	84	46
TCS	98	77	43
S/St	85	62	36
Aluminium	86	72	34

Materials

Nickel Copper Alloy 400 Wire
Wire diameter 0.11mm
UK Specification to BS3075 NA13
USA Specification to AMS 4730

Tin Plated Copper Clad Steel (TCS)
Wire diameter 0.11mm
UK Specification BS EN 50117-10-1*, BS4087*,
USA Specification ASTM B277*, ASTM B452*,
ASTM B520, ASTM B33*, AISI 1010

* There is no complete specification for this material. Processes have been derived from parts of the above where applicable.

Stainless Steel (S/St)
UK Specification BS EN 10088-3 2005 316 S19
Wire diameter 0.11mm

Aluminium
Specification BS EN 537 pt 3
Wire diameter 0.13mm

Solid Silicone Rubber
Generally meets ZZ-R-765
Temperature range -40°C to +200°C
Service life >20 years

Sponge Silicone Rubber
USA Specification AMS 3195
Temperature range -40°C to +200°C
Service life >20 years

Sponge Neoprene Rubber
USA Specification ASTM D1056 (84) SCE 42
Temperature range -15°C to +80°C
Condition medium

Tolerances

- Round and rectangular mesh sections ± 0.8mm
- Carrier size ± 0.8
- Finished gaskets ± 0.8mm up to 300mm ± 1.2mm over 300mm
- Hole centres ± 0.4mm

Note: All sizes listed that have an Elastomer core are the Elastomer size, Allowances must be made for the wire mesh, 1 layer approximately 0.4mm and 2 layers 0.8mm

Tolerances on Rubbers

- Up to 2.0mm diameter or thickness ± 0.5mm
- 2.0mm to 10.0mm diameter or thickness ± 0.8mm
- Above 10mm diameter or thickness ± 1.5mm

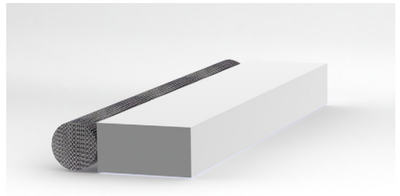
How to Order

The sizes shown on the tables are typical examples of our range other sizes are available on request. To make a part number, use the wire material code from the 'material code' box followed by the part number.

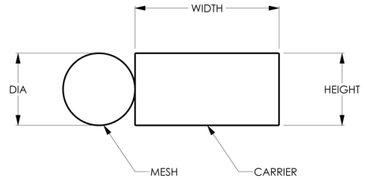
Example

334-0032-0032-0191 = The sizes shown on the tables are typical examples of our range other sizes are available on request. To make a part number, use the wire material code from the 'material code' box followed by the part number.

Solid Mesh to Silicone Sponge Carrier



Profile

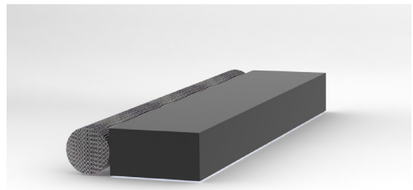


Material Codes

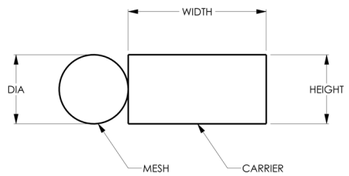
Mesh Diameter	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
			392	**394**	**396**	**398**	
3.2mm	3.2mm	9.5mm					0032-0032-0095
4.0mm	3.2mm	12.7mm					0040-0032-0127
4.8mm	3.2mm	9.5mm					0048-0032-0095
4.8mm	4.8mm	12.7mm					0048-0048-0127
4.8mm	4.8mm	15.9mm					0048-0048-0159
6.4mm	4.8mm	12.7mm					0064-0048-012

Other sizes are available on request

Solid Mesh to Neoprene Sponge Carrier



Profile

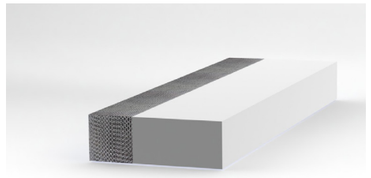


Material Codes

Mesh Diameter	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
			302	**304**	**306**	**308**	
3.2mm	3.2mm	9.5mm					0032-0032-0095
4.0mm	3.2mm	12.7mm					0040-0032-0127
4.8mm	3.2mm	9.5mm					0048-0032-0095
4.8mm	4.8mm	12.7mm					0048-0048-0127
4.8mm	4.8mm	15.9mm					0048-0048-0159
6.4mm	4.8mm	12.7mm					0064-0048-012

Other sizes are available on request

Solid Mesh to Silicone Sponge Carrier



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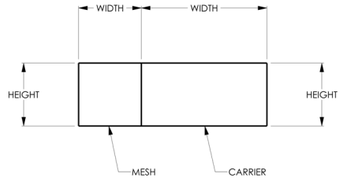
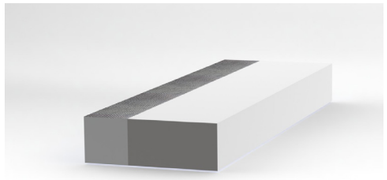


Material Codes

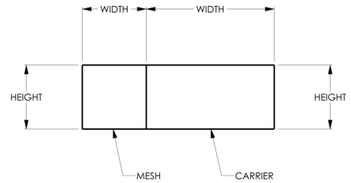
Mesh Height	Mesh Width	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
				312	314	316	318	
2.4mm	2.4mm	2.4mm	9.5mm					0024-0024-0024-0095
2.4mm	2.4mm	2.4mm	12.7mm					0024-0024-0024-01277
3.2mm	3.2mm	3.2mm	9.5mm					0032-0032-0032-0095

Other sizes are available on request

Silicone Sponge Core to Silicone Sponge Carrier



Profile

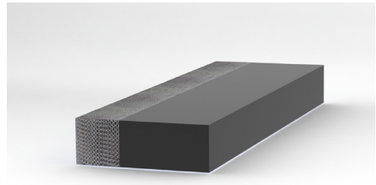


Material Codes

Mesh Height	Mesh Width	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
				382	384	386	388	
2.4mm	2.4mm	2.4mm	9.5mm					0024-0024-0024-0095
2.4mm	2.4mm	2.4mm	12.7mm					0024-0024-0024-01277
3.2mm	3.2mm	3.2mm	9.5mm					0032-0032-0032-0095

Other sizes are available on request

Solid Mesh to Neoprene Sponge Carrier



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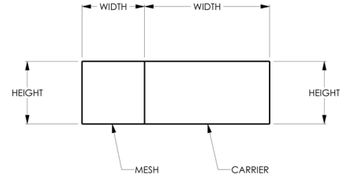
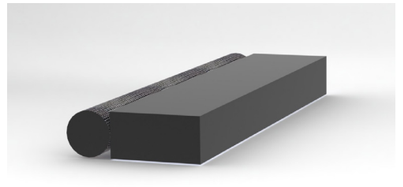


Material Codes

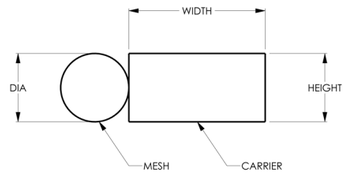
Mesh Height	Mesh Width	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
				322	324	326	328	
2.4mm	2.4mm	2.4mm	9.5mm					0024-0024-0024-0095
2.4mm	2.4mm	2.4mm	12.7mm					0024-0024-0024-01277
3.2mm	3.2mm	3.2mm	9.5mm					0032-0032-0032-0095

Other sizes are available on request

Neoprene Sponge Core to Neoprene Sponge Carrier



Profile

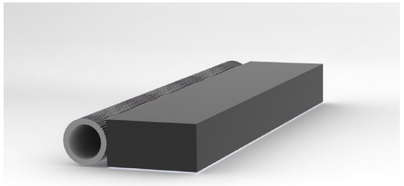


Material Codes

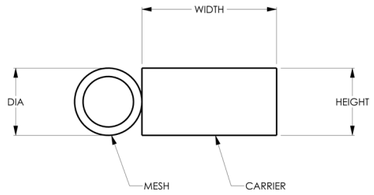
Mesh Diameter	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
			342	344	346	348	
3.2mm	3.2mm	9.5mm					0032-0032-0095
4.0mm	3.2mm	12.7mm					0040-0032-0127
4.8mm	3.2mm	9.5mm					0048-0032-0095
4.8mm	4.8mm	12.7mm					0048-0048-0127
4.8mm	4.8mm	15.9mm					0048-0048-0159
6.4mm	4.8mm	12.7mm					0064-0048-0127

Other sizes are available on request

Silicone Tube Core to Neoprene Sponge Carrier



Profile

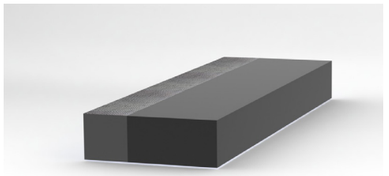


Material Codes

Mesh Diameter	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
			362	364	366	368	
3.2mm	3.2mm	9.5mm					0032-0032-0095
4.0mm	3.2mm	12.7mm					0040-0032-0127
4.8mm	3.2mm	9.5mm					0048-0032-0095
4.8mm	4.8mm	12.7mm					0048-0048-0127
4.8mm	4.8mm	15.9mm					0048-0048-0159
6.4mm	4.8mm	12.7mm					0064-0048-0127

Other sizes are available on request

Neoprene Sponge Core to Neoprene Sponge Carrier



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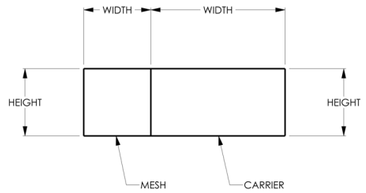
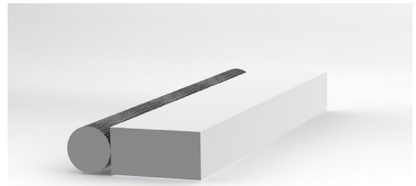


Material Codes

Mesh Height	Mesh Width	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
				372	374	376	378	
2.4mm	2.4mm	2.4mm	9.5mm					0024-0024-0024-0095
2.4mm	2.4mm	2.4mm	12.7mm					0024-0024-0024-01277
3.2mm	3.2mm	3.2mm	9.5mm					0032-0032-0032-0095

Other sizes are available on request

Silicone Sponge Core to Silicone Sponge Carrier



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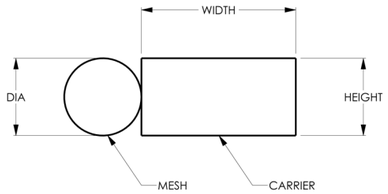
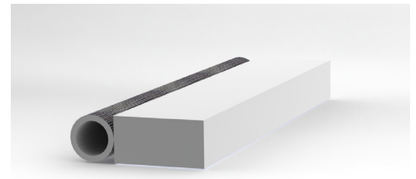


Material Codes

Mesh Diameter	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
			332	334	336	338	
3.2mm	3.2mm	9.5mm					0032-0032-0095
4.0mm	3.2mm	12.7mm					0040-0032-0127
4.8mm	3.2mm	9.5mm					0048-0032-0095
4.8mm	4.8mm	12.7mm					0048-0048-0127
4.8mm	4.8mm	15.9mm					0048-0048-0159
6.4mm	4.8mm	12.7mm					0064-0048-0127

Other sizes are available on request

Silicone Tube Core to Silicone Sponge Carrier



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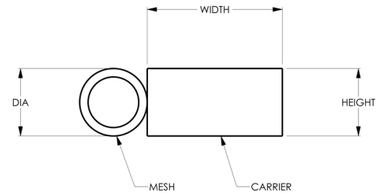
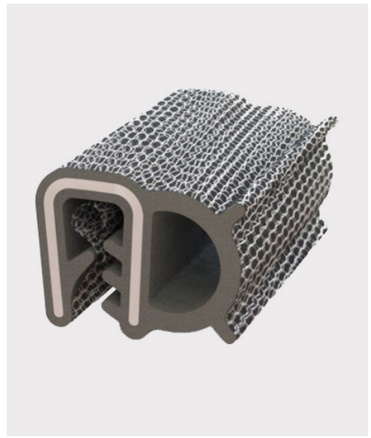


Material Codes

Mesh Diameter	Carrier Height	Carrier Width	Mon	TCS	S/St	Alu	Part No.
			352	354	356	358	
3.2mm	3.2mm	9.5mm					0032-0032-0095
4.0mm	3.2mm	12.7mm					0040-0032-0127
4.8mm	3.2mm	9.5mm					0048-0032-0095
4.8mm	4.8mm	12.7mm					0048-0048-0127
4.8mm	4.8mm	15.9mm					0048-0048-0159
6.4mm	4.8mm	12.7mm					0064-0048-0127

Other sizes are available on request



CLIP ON KNITTED WIRE MESH RFI/EMI SHIELDING GASKET STRIP

Clip on knitted wire mesh gasket strip is a very flexible, easily compressible sponge EPDM tubular or bulb type gasket strip with a steel spring clip covered with a double knitted wire mesh layer for RFI/EMI shielding.

APPLICATION

Provides a good RFI/EMI shield for enclosures and electrical cabinets. The soft hollow bulb profile requires low closure force and makes the product particularly suitable for door applications where frequent opening and closing is required. The clip on gasket is easy to fit and will bend up to 90 degrees. The knitted wire mesh gives very low contact resistance between mating surfaces ensuring good shielding. The choice of wire mesh material available also allows for a good galvanic match with mating flanges, thereby limiting the possibility of corrosion between gasket and flange.

AVAILABILITY

- In continuous lengths
- Cut to length
- Fabricated into finished gaskets
- Variety of profiles and sizes
- Fabricated gaskets
- Selection of wire to meet galvanic compatibility requirements

Other profiles and NBR rubber are available to special order – please enquire to discuss your application

DESIGN CONSIDERATIONS

- Consideration should be given to the termination of cut mesh ends. Sometimes loose wires are evident after cutting. Kemtron are experts at mesh termination however if you choose to cut the mesh yourself loose wires can be avoided by:
  - Dipping the end in glue,
  - Sewing the cut mesh end.
- Galvanic compatibility. Select from a choice of wire.
- Water and moisture sealing is not possible with this product. However, it does offer a limited dust seal.

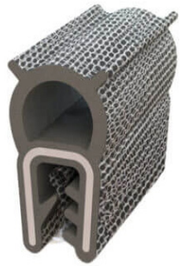
TYPICAL SHIELDING PERFORMANCE

H Field Magnetic				
MHz	10 kHz	100 kHz	1.0 MHz	10.0 MHz
Monel	28	45	64	>104
TCS	47	67	88	>104
S/St	35	43	50	-
Aluminium	36	47	64	>104

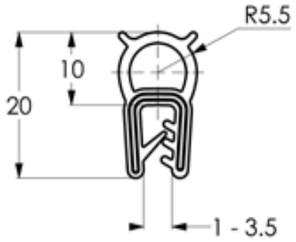
E Field Electric				
MHz	0.1 MHz	1.0 MHz	10.0 MHz	100 MHz
Monel	>118	>136	>123	99
TCS	>118	>136	>126	109
S/St	119	102	-	-
Aluminium	>118	>136	>120	91

P Field Plain Wave			
MHz	400 MHz	1.0 MHz	10.0 MHz
Monel	96	84	46
TCS	98	77	43
S/St	85	62	36
Aluminium	86	72	34

PROFILE SHAPE 05



PROFILE



PROFILE SHAPE 05

Monel Alloy 400 Wire
Wire diameter 0.11mm
UK Specification to BS3075 NA13
USA Specification to AMS 4730

Tin Plated Copper Clad Steel (TCS)
Wire diameter 0.11mm
UK Specification BS EN 50117-10-1*, BS4087*
USA Specification ASTM B277*, ASTM B452*, ASTM B520, ASTM B33*, AISI 1010

* There is no complete specification for this material. Processes have been derived from parts of the above where applicable.

Stainless Steel (S/St)
UK Specification BS EN 10088-3 2005 316 S19
Wire diameter 0.11mm

Aluminium (Alu)
Specification BS EN 573 pt 3
Wire diameter 0.13mm

EPDM
Sponge rubber (EPDM) black (clamping profile EPDM 65 ± 5 shore A).
UL50
UL95-HB

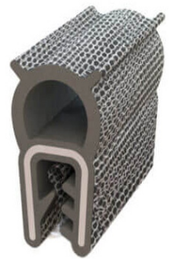
Example
6052 = profile shape 05 with Monel Wire Mesh

MATERIAL CODES

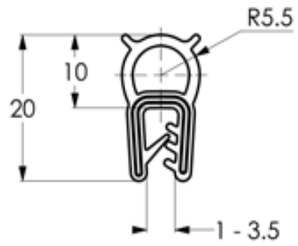
Mon	TCS	S/St	Alu
6052	6054	6056	6058

Other sizes are available on request.

PROFILE SHAPE 49



PROFILE



MATERIAL CODES

Mon	TCS	S/St	Alu
6492	6494	6496	6498

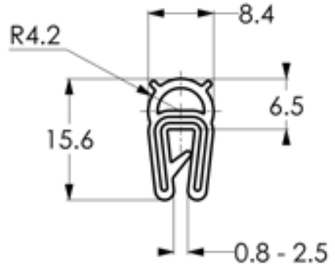
Other sizes are available on request.

HOW TO ORDER

The sizes shown on the tables are typical examples of our range other sizes are available on request. Each profile shape has its own part number and wire mesh material code.

PROFILE SHAPE 10

PROFILE



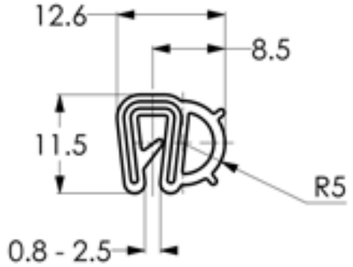
MATERIAL CODES

Mon	TCS	S/St	Alu
6102	6104	6106	6108

Other sizes are available on request.

PROFILE SHAPE 09

PROFILE

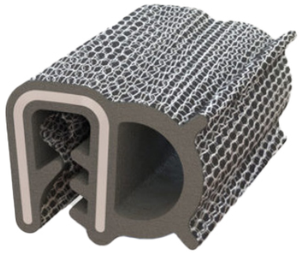


MATERIAL CODES

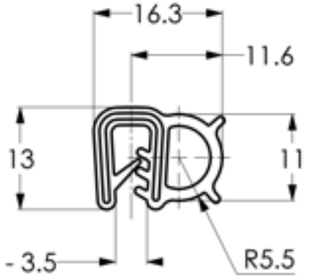
Mon	TCS	S/St	Alu
6092	6094	6096	6098

Other sizes are available on request.

PROFILE SHAPE 06



PROFILE

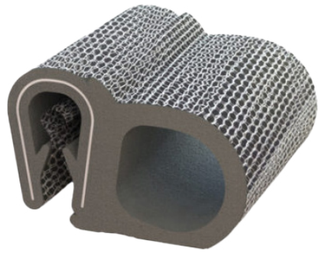


MATERIAL CODES

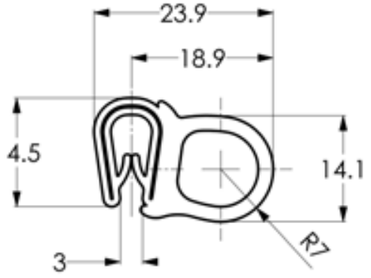
Mon	TCS	S/St	Alu
6062	6064	6066	6068

Other sizes are available on request.

PROFILE SHAPE 19



PROFILE



MATERIAL CODES

Mon	TCS	S/St	Alu
6192	6194	6196	6198

Other sizes are available on request.

ALUMINIUM HONEYCOMB AIR VENTILATION PANELS FOR RFI/EMI SHIELDING

Product Overview

Kemtron Limited (Kemtron), now part of TE Connectivity, manufactures a range of aluminum honeycomb air ventilation panels consisting of an aluminium honeycomb foil held in a rigid extruded aluminium mounting frame. The foil, formed and laminated into a series of honeycomb cells that are glued and perforated or laser welded at the join, ensures a conductive path at each join. Although the foil is conductive in all directions, to enhance EMI performance, two pieces of honeycomb polarised at 90° to each other are recommended.

The frame can be supplied with an integral or separate EMI/RFI gasket, and can be treated with a variety of finishes to provide corrosion protection or improve conductivity.

How do honeycomb vents work

The principle is that of “waveguide beyond cutoff”. The honeycomb vent is series of tubes that acts as a waveguide, guiding electromagnetic waves into or out of the enclosure, but as the tubes are long enough then it attenuates those waves. Typically the tube should be at least 3 times as long as the diameter. Good practice is 4 times. Therefore a 3.18mm cell should be 12.7mm long. Honeycomb material is used because it offers high shielding performance, light weight and good airflow.

A standard range of honeycomb vents are available, drawings and part numbers are shown at the end of this data sheet.

Applications

Ventilation panels are designed for use in electronic enclosures where good air flow is required for cooling and ventilation but where EMC compliance must be ensured.

Typical applications are:

- Electronic Enclosures
- Air Conditioning Units
- Fan Housings
- EMC Racks
- Communication Shelters

Availability

An extensive range of aluminium extrusion mounting frames are available from stock offering a choice of mounting methods and sizes.

Available as custom sizes with no additional cost.

Frames can be supplied with fixing holes or captive threaded inserts to aid mounting.

Honeycomb can be supplied in a number of configurations to suit different EMI/RFI shielding performance requirements, such as straight through, polarized and a choice of cell size.

Standard perforated honeycomb is available with 30˚, 45˚, 60˚ and 90˚ angles from stock and laser welded aluminium honeycomb is also available to special order.

For vulnerable situations, weld mesh or expanded aluminium kick plates can be fitted.

Removable dust filters and integral insect screens can also be provided.

A range of low cost standard fan vents are available to meet commercial applications where lower performance is acceptable, consisting of one layer of aluminium honeycomb held in a plastic frame.

Design Considerations

Any environmental conditions such as moisture and dust control including:

- Air flow requirement
- External louvres for rain protection
- Drain holes
- Any additional gasketing

Constructional Requirements and Finishes Including

- Angled honeycomb for rain protection or directional air flow
- Rigidity of vent frame and enclosure so as to prevent bowing of either surface when compressing the gasket
- Fixing requirements e.g. holes or threaded inserts ensuring appropriate position and size of hole-centres, (Holes in the corners of the frame should be avoided)
- If specifying captive inserts in both sides of the frame, offset the positions by 10mm minimum
- Round vents tend to be an expensive option due to the complexity of manufacturing method
- Fully welded corners
- Type of gasket required
- Frame style
- Honeycomb configuration
- Corrosion, electrical conductivity etc, (see Finishes section)
- Weld mesh or expanded aluminium kick plates
- Removable dust filters and integral insect screens can be provided

Production Capabilities

Kemtron manufactures its range of EMC vent panels using the latest technology and, with the exception of painting and plating, all processes are kept in house, giving us flexibility and total control over quality. Kemtron has invested heavily in this area making us the market leaders for price, delivery, quality and availability.

Fully programmable CNC machines for the notching & cutting of the frame extrusions and drilling of exact and repeatable holes combined with the latest TIG welding equipment allows Kemtron to offer a fast delivery of its competitive range of aluminium vent panels produced to customer designs. This advanced technology also eliminates the need for additional tooling and set-up charges. Kemtron holds a large range of aluminium extrusions and aluminium honeycomb in stock.

In addition to vent panels, Kemtron manufactures a huge range of EMI shielding products, including conductive elastomers, oriented wire, knitted wire mesh, connector gaskets.

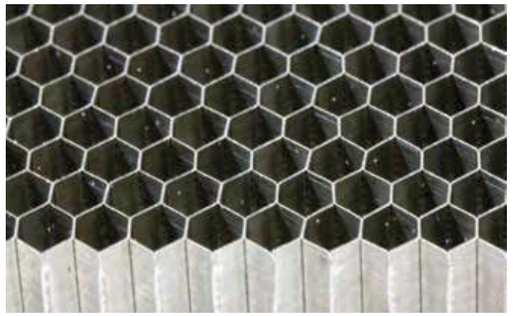
Vent panels made with styles 1701, 1703, 1705, 1706 & 1707 are supplied with 3 corners notched and the 4th joined corner welded and have an external corner radii of 3mm.

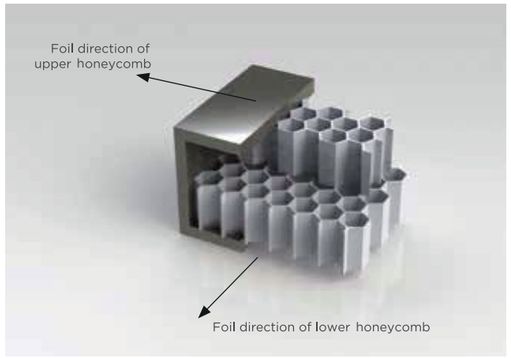
Honeycomb Specification and Availability

Kemtron uses 5052 grade aluminium foil which is a lightweight material offering superior strength and corrosion resistance over commercial grade aluminium foils. It meets all the requirements of MIL-C-7438.

Standard straight cell size & thickness held in stock

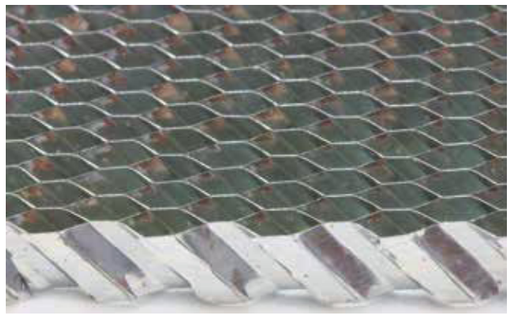
- 3.2mm (0.125") cell x 12.70mm (0.50") thick
- 3.2mm (0.125") cell x 6.35mm (0.25") thick
- 1.6mm (0.0625") cell x 6.35mm (0.25") thick
- 3.2mm (0.125") cell x 3.2mm (0.125") thick

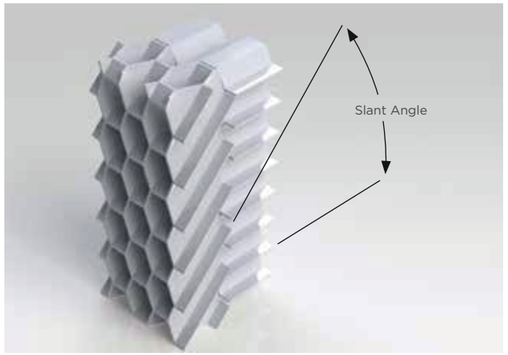




Standard slant cell sizes, angles & thicknesses held in stock

- 3.2mm (0.125") cell x 6.35mm (0.25") thick x 30˚ angle
- 3.2mm (0.125") cell x 6.35mm (0.25") thick x 45˚ angle
- 3.2mm (0.125") cell x 6.35mm (0.25") thick x 60˚ angle





Frame Styles Available

Frame styles 1701,1702,1703,1704 and 1707 will accommodate:

- 2 layers of 3.2 x 6.35mm thick honeycomb
- 1 layer of 3.2mm cell x 6.35mm thick and one layer of 3.2mm x 6.35mm thick angled honeycomb
- 1 layer 12.7mm thick honeycomb

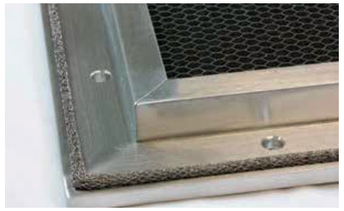
Frame styles 1705 and 1706 will accommodate:

- 1 layer of 3.2 or 1.6mm cell x 6.35mm thick honeycomb
- 2 layers of 3.2mm cell x 3.2mm thick honeycomb

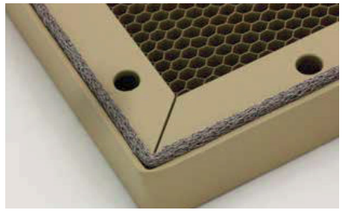
Frame style 1709 main use is for dust filter panels that can be fitted over EMC vent panels, but can accommodate one layer of 3.2 or 1.6mm cell x 6.35mm thick honeycomb, however this is not recommended.

Frame style 1708 is a dividing/support bar for large vents.

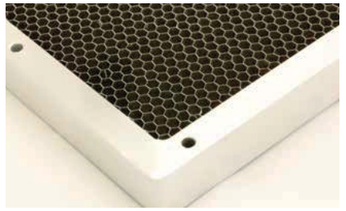
Vents are normally supplied with three notched and one welded corner to achieve the best trade off between cost and performance. This combined with an EMC gasket is normally sufficient for all but the most demanding EMC specifications. In the event that the best possible attenuation is required all corners can be supplied fully welded. Please note that styles 1702 & 1704 are always supplied fully welded due to the nature of their construction.



FULLY WELDED CORNER



NOTCHED CORNER



FULLY WELDED CORNER

Finishes

Kemtron's standard finish (Surtec 650) for aluminium vent panels fully meets the RoHS directive.

Vent panels can be supplied with a range of finishes, including:

- Surtec 650 – Trivalent chromium
- Tin or nickel plating
- Painted
- Alochrome 1200 – Hexavalent chromium

Kemtron's in-house hexavalent chromium process applies a trivalent chromium passivation. The surface finish is conductive with a low contact resistance and meets all requirements of MIL-DTL-5541F Type II Class 3 for corrosion resistance and electrical conductivity. We are also able to offer a comprehensive range of painted finishes to complement our standard Surtec 650 finish. Using industry leading wet paint solutions from Trimite, we offer full painting and preparation to DEF STAN specifications including matt and gloss finishes.

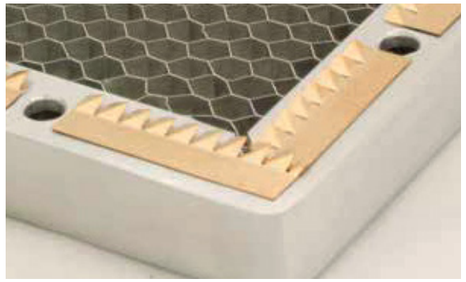
In addition we can also offer infrared reflecting (IRR) matte finishes complying with DEF STAN 00-23, 80-166 and STANAG 2338.

For less critical/commercial applications requiring a protected finish we recommend polyester powder coating. This is tough material that offers excellent resistance to fresh and saltwater, petrol, linseed and penetrating oils, along with limited resistance to various acids. We are happy to advise on specific examples if required. As the epoxy process is an electrostatic method, it offers excellent penetration of the honeycomb cells, further aiding resistance to corrosion. With both processes, we are able to offer a full range of colors to meet RAL/BS standards.

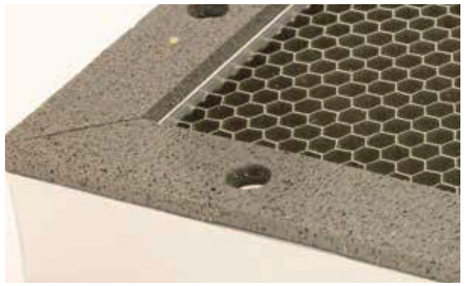
Gaskets for Vents

- Knitted wire mesh = Frames with a gasket groove
- oriented wire in silicone
- Knitted Monel wire mesh with a neoprene sponge carrier 2.4mm thick
- Beryllium copper finger stock

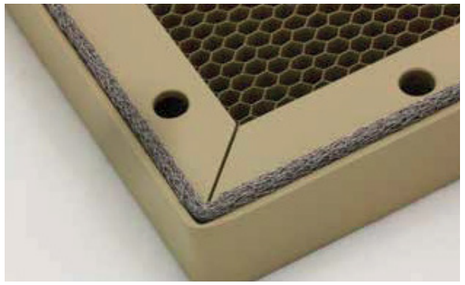
Other gasket types are available if required.



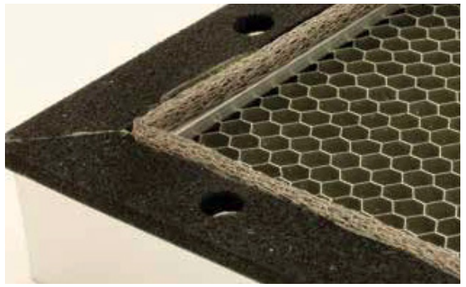
BERYLLIUM COPPER GASKET



ORIENTED WIRES IN SILICONE GASKET



KNITTED WIRE MESH GASKET



KNITTED WIRE MESH WITH NEOPRENE GASKET

Kick Plates

Aluminium honeycomb is fragile so for high traffic areas or where honeycomb damage could easily occur kick plates can be fitted.

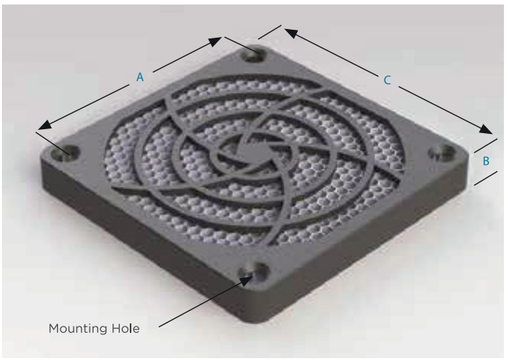
Two types are stocked as standard, however custom designs to customers specific requirements (i.e. louvred openings) are available.

EXPANDED ALUMINIUM:
MAX PROTECTION / REDUCED AIR FLOW

WOVEN STAINLESS STEEL:
LOW PROTECTION / HIGH AIR FLOW

Fan Vents

TE Connectivity/Kemtron offer a range of low cost plastic EMC vents for use with 40mm, 60mm, 80mm, 92mm & 120mm fans. They provide EMC shielding where applications demand a low cost solution, whilst still providing an adequate shielding performance. A high impact ABS UL94 V-0 fire retardant moulding is fitted with one layer of 3.2mm cell x 6.35mm thick honeycomb and a nickel/copper fabric gasket to ground the honeycomb to the metalwork. The vents have 4 countersunk holes to suit standard fan mountings.



Measured shielding performance in accordance with Mil Std 285 (80mm size tested)

Frequency	Field	Typical (dB)
200 KHz	H	53
100 MHz	E	102
500 MHz	P	85
2 GHz	P	74
10 GHz	P	58

Type	A	B	C	Part number
Kemvent40	32.0mm	8.0mm	45.5mm	2430084-1
Kemvent60	50.0mm	9.0mm	64.5mm	2430085-1
Kemvent80	71.5mm	10.0mm	84.5mm	2430086-1
Kemvent92	82.0mm	10.0mm	97.0mm	2430087-1
Kemvent120	104.0mm	10.0mm	125.0mm	2430088-1

Optional Removable Dust Filters and Insect Screen

Dust Filter

This consists of a aluminium frame 1701, 1705, 1706, 1707 & 1709 which holds a polyester polyurethane dust filter. This is held in place on one side by a stainless steel weld mesh. This frame then mounts on to one side of the honeycomb vent panel by captive screws. Easily removed for cleaning with a mild detergent and rinsed with water. A range of different filter options are available.

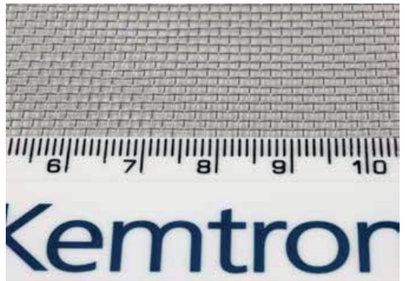
Aluminium honeycomb vent panels fitted with removable dust filters usually require assisted air flow.

Standard filter foam is stocked in two thicknesses to suit the above frame styles.

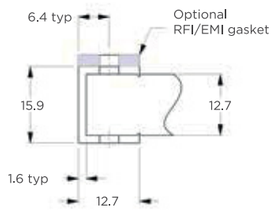
30, 45 and 60 pores per inch are available, and others to meet specific requirements.

Insect Screen

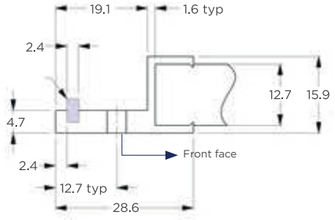
This is a woven aluminium cloth inserted on one face or between the honeycomb and provides protection from the ingress of insects. Wire dia 0.28mm open area 66%.



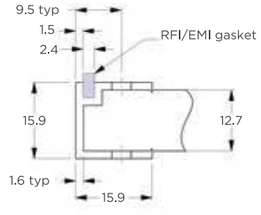
Frame style: 1701



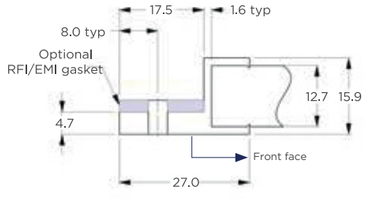
Frame style: 1702



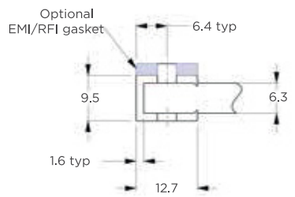
Frame style: 1703



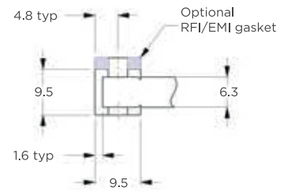
Frame style: 1704



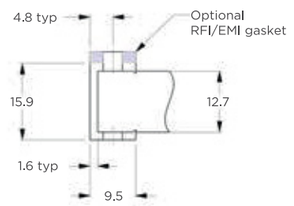
Frame style: 1705



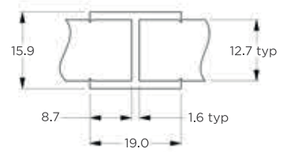
Frame style: 1706



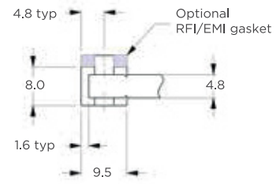
Frame style: 1707



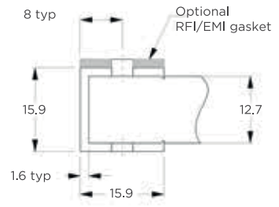
Frame style: 1708



Frame style: 1709



Frame style: 1710



Tolerances

- Standard tolerances for overall finished vent dimensions are ± 0.8mm.
- Standard tolerances on hole centres are ± 0.4mm.
- Typical corner radii on frame styles 1701, 1703, 1705, 1706 & 1707 are R3.0mm
- 1702 & 1704 frame styles have square corners and are fully welded on the front face

Specifications

Aluminium Frame	6063-T6
Aluminium Honeycomb	5052 Grade
Monel Wire	BS3075 NA13
Neoprene Sponge	Mil-R-6130 Type 11 Grade A condition soft
Beryllium Copper	Alloy 25 (CA172)
Silicone Rubber	ZZ-R-765 Class 2 Grade 40
Aluminium Wire	5056

EMC Performance (dB)

Honeycomb Type

Frequency	Field	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
200 kHz	H	66	39	65	71	71	78
100 MHz	E	105	80	105	105	105	100
500 MHz	P	81	55	50	93	93	55
2 GHz	P	85	52	60	94	94	96
10 GHz	P	85	61	72	82	90	80

Honeycomb

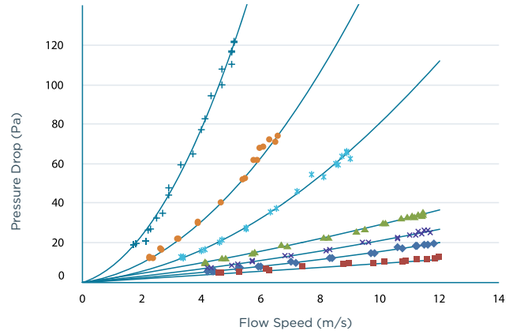
Type 1	2 layers 3.2 cell x 3.2mm thick honeycomb (total 6.4mm)
Type 2	1 layer 3.2 cell x 6.35mm thick honeycomb
Type 3	1 layer 1.6 cell x 6.35mm thick honeycomb
Type 4	2 layers 3.2 cell x 6.35mm thick honeycomb (total 12.7mm)
Type 5	1 layer 3.2 cell x 6.35mm thick honeycomb + 1 layer 3.2 cell x 6.35mm thick slant honeycomb (total 12.7mm)
Type 6	1 layer 3.2 cell x 12.7mm thick honeycomb

Honeycomb Combinations

Frame	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1701				✓	✓	✓
1702				✓	✓	✓
1703				✓	✓	✓
1704				✓	✓	✓
1705	✓	✓	✓			
1706	✓	✓				
1707				✓	✓	✓
1709		✓				

All of the above frame styles and honeycomb combinations are available with the option of a stainless steel kick-plate.

Air Flow Results Graph



Graph Key

+	Type 5 60º
●	Type 5 45º
✳	Type 5 30º
×	Type 4 & Type 6
▲	Type 3
■	1 layer 3.2 cell x 12.7mm thic Type 2 k honeycomb
◆	Type 1

1701 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1701-0762-0762-XXX-X-XX-X	76.2	3	76.2	3	50.8	2	50.8	2	25.8	4	1	1	31.75	1.25	-	-	31.75	1.25	-	-
1701-1016-1016-XXX-X-XX-X	101.6	4	101.6	4	76.2	3	76.2	3	58.1	9	1	1	44.45	1.75	-	-	44.45	1.75	-	-
1701-1524x1016-XXX-X-XX-X	152.4	6	101.6	4	127	5	76.2	3	96.8	15	2	1	25.4	1	88.9	3.5	44.45	1.75	-	-
1701-1270-1270-XXX-X-XX-X	127	5	127	5	101.6	4	101.6	4	103.2	16	2	1	19.05	0.75	76.2	3	57.15	2.25	-	-
1701-2032-1016-XXX-X-XX-X	203.2	8	101.6	4	177.8	7	76.2	3	135.5	21	3	1	19.05	0.75	76.2	3	44.45	1.75	-	-
1701-1778-1270-XXX-X-XX-X	177.8	7	127	5	152.4	6	101.6	4	154.8	24	2	1	38.1	1.5	88.9	3.5	57.15	2.25	-	-
1701-1524-1524-XXX-X-XX-X	152.4	6	152.4	6	127	5	127	5	161.3	25	2	2	25.4	1	88.9	3.5	25.4	1	88.9	3.5
1701-3048-1016-XXX-X-XX-X	304.8	12	101.6	4	279.4	11	76.2	3	212.9	33	4	1	31.75	1.25	76.2	3	44.45	1.75	-	-
1701-2032-1524-XXX-X-XX-X	203.2	8	152.4	6	177.8	7	127	5	225.8	35	3	2	19.05	0.75	76.2	3	31.75	1.25	76.2	3
1701-1778-1778-XXX-X-XX-X	177.8	7	177.8	7	152.4	6	152.4	6	232.3	36	2	2	38.1	1.5	88.9	3.5	38.1	1.5	88.9	3.5
1701-2540-1270-XXX-X-XX-X	254	10	127	5	228.6	9	101.6	4	232.3	36	3	1	31.75	1.25	88.9	3.5	57.15	2.25	-	-
1701-2032x2032-XXX-X-XX-X	203.2	8	203.2	8	177.8	7	177.8	7	316.1	49	3	2	19.05	0.75	76.2	3	50.8	2	88.9	3.5
1701-2540-1778-XXX-X-XX-X	254	10	177.8	7	228.6	9	152.4	6	348.4	54	3	2	31.75	1.25	88.9	3.5	38.1	1.5	88.9	3.5
1701-3048-1524-XXX-X-XX-X	304.8	12	152.4	6	279.4	11	127	5	354.8	55	4	2	31.75	1.25	76.2	3	25.4	1	88.9	3.5
1701-2540x2032-XXX-X-XX-X	254	10	203.2	8	228.6	9	177.8	7	406.5	63	3	2	31.75	1.25	88.9	3.5	50.8	2	88.9	3.5
1701-3048-2032-XXX-X-XX-X	304.8	12	203.2	8	279.4	11	177.8	7	496.8	77	4	3	31.75	1.25	76.2	3	19.05	0.75	76.2	3
1701-2540-2540-XXX-X-XX-X	254	10	254	10	228.6	9	228.6	9	522.6	81	3	3	31.75	1.25	88.9	3.5	31.75	1.25	88.9	3.5
1701-3048-3048-XXX-X-XX-X	304.8	12	304.8	12	279.4	11	279.4	11	780.6	121	4	4	31.75	1.25	76.2	3	31.75	1.25	76.2	3

1701 Frames

Part Number
1701-0762-0762-XX-X-XX-X

Frame Style

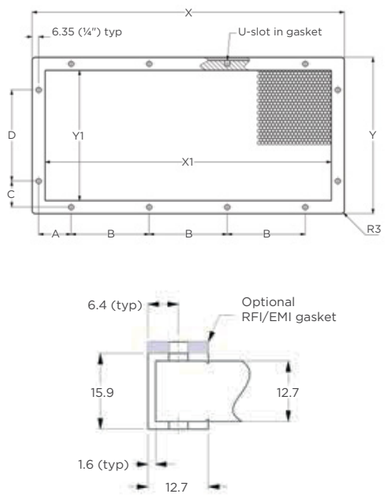
Overall outside dimensions

Honeycomb type
T4 = 2 layers 3.18 cell x 6.4mm thick oriented at 90º
T6 = 1 layer 3.18 cell x 12.7mm thick

Finishes
S = Surtec 650
N = Nickel plate

Fixings
TH = Through hole 5.5mm dia
NO = No fixings
M3, M4, M5, 8/32 = Threaded inserts

Gaskets
G = Monel knitted wire mesh with neoprene
NG = No gasket



1702 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1702-0762-0762-XXXX-X-XX-G	76.2	3	76.2	3	19.1	0.75	19.1	0.75	3.6	0.563	1	1	25.4	1			25.4	1		
1702-1016-1016-XXXX-X-XX-G	101.6	4	101.6	4	44.5	1.75	44.5	1.75	19.8	3.063	1	1	38.1	1.5			38.1	1.5		
1702-1524-1016-XXXX-X-XX-G	152.4	6	101.6	4	95.3	3.75	44.5	1.75	42.3	6.563	2	1	19.05	0.75	88.9	3.5	38.1	1.5		
1702-1270-1270-XXXX-X-XX-G 2430089-1	127	5	127	5	69.9	2.75	69.9	2.75	48.8	7.563	2	1	12.7	0.5	76.2	3	50.8	2		
1702-2032-1016-XXXX-X-XX-G	203.2	8	101.6	4	146.1	5.75	44.5	1.75	64.9	10.063	3	1	12.7	0.5	76.2	3	38.1	1.5		
1702-1778-1270-XXXX-X-XX-G	177.8	7	127	5	120.7	4.75	69.9	2.75	84.3	13.063	2	1	31.75	1.25	88.9	3.5	50.8	2		
1702-1524-1524-XXXX-X-XX-G	152.4	6	152.4	6	95.3	3.75	95.3	3.75	90.7	14.063	2	2	19.05	0.75	88.9	3.5	19.05	0.75	88.9	3.5
1702-3048-1016-XXXX-X-XX-G	304.8	12	101.6	4	247.7	9.75	44.5	1.75	110.1	17.063	4	1	25.4	1	76.2	3	38.1	1.5		
1702-2032-1524-XXXX-X-XX-G	203.2	8	152.4	6	146.1	5.75	95.3	3.75	139.1	21.563	3	2	12.7	0.5	76.2	3	25.4	1	76.2	3
1702-1778-1778-XXXX-X-XX-G	177.8	7	177.8	7	120.7	4.75	120.7	4.75	145.6	22.563	2	2	31.75	1.25	88.9	3.5	31.75	1.25	88.9	3.5
1702-2540-1270-XXXX-X-XX-G	254	10	127	5	196.9	7.75	69.9	2.75	137.5	21.313	3	1	25.4	1	88.9	3.5	50.8	2		
1702-2032-2032-XXXX-X-XX-G 2430090-1	203.2	8	203.2	8	146.1	5.75	146.1	5.75	213.3	33.063	3	2	12.7	0.5	76.2	3	44.45	1.75	88.9	3.5
1702-2540-1778-XXXX-X-XX-G	254	10	177.8	7	196.9	7.75	120.7	4.75	237.5	36.813	3	2	25.4	1	88.9	3.5	31.75	1.25	88.9	3.5
1702-3048-1524-XXXX-X-XX-G	304.8	12	152.4	6	247.7	9.75	95.3	3.75	235.9	36.563	4	2	25.4	1	76.2	3	19.05	0.75	88.9	3.5
1702-2540-2032-XXXX-X-XX-G	254	10	203.2	8	196.9	7.75	146.1	5.75	287.5	44.563	3	2	25.4	1	88.9	3.5	44.45	1.75	88.9	3.5
1702-3048-2032-XXXX-X-XX-G	304.8	12	203.2	8	247.7	9.75	146.1	5.75	361.7	56.063	4	3	25.4	1	76.2	3	12.7	0.5	76.2	3
1702-2540-2540-XXXX-X-XX-G	254	10	254	10	196.9	7.75	196.9	7.75	387.5	60.063	3	3	25.4	1	88.9	3.5	25.4	1	88.9	3.5
1702-3048-3048-XXXX-X-XX-G	304.8	12	304.8	12	247.7	9.75	247.7	9.75	613.3	95.063	4	4	25.4	1	76.2	3	25.4	1	76.2	3

1702 Frames

Part Number
1702-0762-0762-XX-X-XX-X

Frame Style

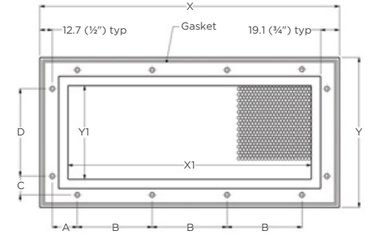
Overall outside dimensions

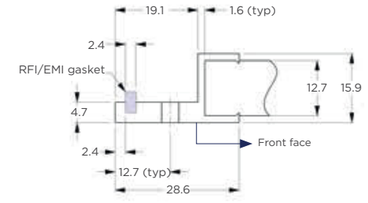
Honeycomb type
T4 = 2 layers 3.18 cell x 6.4mm thick oriented at 90º
T6 = 1 layer 3.18 cell x 12.7mm thick

Finishes
S = Surtec 650
N = Nickel plate

Fixings
TH = Through hole 5.5mm dia
NO = No fixings

Gaskets
G = Monel knitted wire mesh



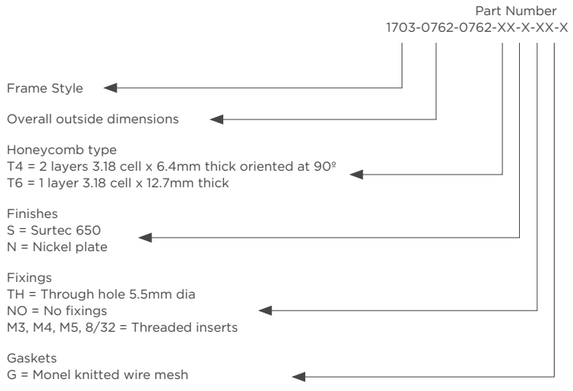


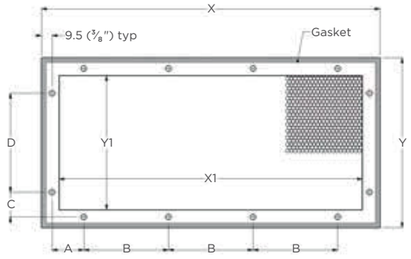
1703 Standard Frames

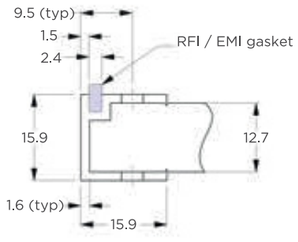
Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1703-0762-0762-XXX-X-XX-G	76.2	3	76.2	3	44.5	1.75	44.5	1.75	19.8	3.063	1	1	28.58	1.125	-	-	28.58	1.125	-	-
1703-1016-1016-XXX-X-XX-G	101.6	4	101.6	4	69.9	2.75	69.9	2.75	48.8	7.563	1	1	41.28	1.625	-	-	41.28	1.625	-	-
1703-1524-1016-XXX-X-XX-G	152.4	6	101.6	4	120.7	4.75	69.9	2.75	84.3	13.063	2	1	22.23	0.875	88.9	3.5	41.28	1.625	-	-
1703-1270-1270-XXX-X-XX-G	127	5	127	5	95.3	3.75	95.3	3.75	90.7	14.063	2	1	15.88	0.625	76.2	3	53.98	2.125	-	-
1703-2032-1016-XXX-X-XX-G 2430091-1	203.2	8	101.6	4	171.5	6.75	69.9	2.75	119.8	18.563	3	1	15.88	0.625	76.2	3	41.28	1.625	-	-
1703-1778-1270-XXX-X-XX-G	177.8	7	127	5	146.1	5.75	95.3	3.75	139.1	21.563	2	1	34.93	1.375	88.9	3.5	53.98	2.125	-	-
1703-1524-1524-XXX-X-XX-G	152.4	6	152.4	6	120.7	4.75	120.7	4.75	145.6	22.563	2	2	22.23	0.875	88.9	3.5	22.23	0.875	88.9	3.5
1703-3048-1016-XXX-X-XX-G	304.8	12	101.6	4	273.1	10.75	69.9	2.75	190.7	29.563	4	1	28.58	1.125	76.2	3	41.28	1.625	-	-
1703-2032-1524-XXX-X-XX-G	203.2	8	152.4	6	171.5	6.75	120.7	4.75	206.5	32.063	3	2	15.88	0.625	76.2	3	28.58	1.125	76.2	3
1703-1778-1778-XXX-X-XX-G	177.8	7	177.8	7	146.1	5.75	146.1	5.75	213.3	33.063	2	2	34.93	1.375	88.9	3.5	34.93	1.375	88.9	3.5
1703-2540-1270-XXX-X-XX-G	254	10	127	5	222.3	8.75	95.3	3.75	211.7	32.813	3	1	28.58	1.125	88.9	3.5	53.98	2.125	-	-
1703-2032-2032-XXX-X-XX-G 2430092-1	203.2	8	203.2	8	171.5	6.75	171.5	6.75	294	45.563	3	2	15.88	0.625	76.2	3	47.63	1.875	88.9	3.5
1703-2540-1778-XXX-X-XX-G	254	10	177.8	7	222.3	8.75	146.1	5.75	324.6	50.313	3	2	28.58	1.125	88.9	3.5	34.93	1.375	88.9	3.5
1703-3048-1524-XXX-X-XX-G	304.8	12	152.4	6	273.1	10.75	120.7	4.75	329.4	51.063	4	2	28.58	1.125	76.2	3	2.23	0.875	88.9	3.5
1703-2540-2032-XXX-X-XX-G	254	10	203.2	8	222.3	8.75	171.5	6.75	381	59.063	3	2	28.58	1.125	88.9	3.5	47.63	1.875	88.9	3.5
1703-3048-2032-XXX-X-XX-G	304.8	12	203.2	8	273.1	10.75	171.5	6.75	468.1	72.563	4	3	28.58	1.125	76.2	3	15.88	0.625	76.2	3
1703-2540-2540-XXX-X-XX-G	254	10	254	10	222.3	8.75	222.3	8.75	494	76.563	3	3	28.58	1.125	88.9	3.5	28.58	1.125	88.9	3.5
1703-3048-3048-XXX-X-XX-G	304.8	12	304.8	12	273.1	10.75	273.1	10.75	745.6	115.563	4	4	28.58	1.125	76.2	3	28.58	1.125	76.2	3

1703 Frames



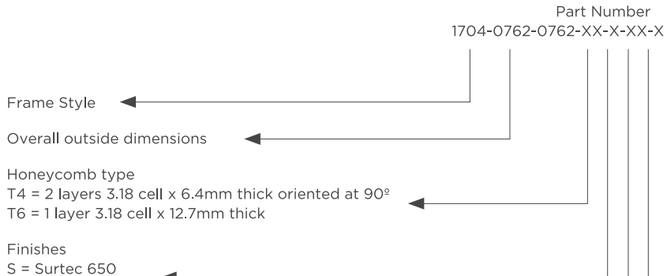


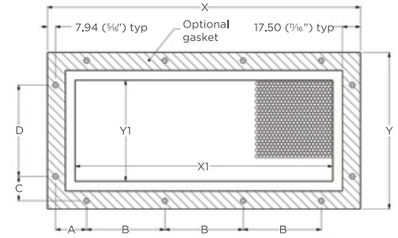


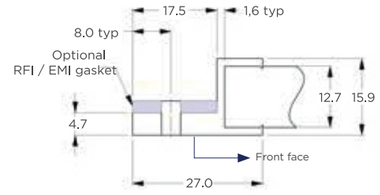
1704 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1704-0762-0762-XXX-X-XX-X	76.2	3	76.2	3	22.2	0.875	22.2	0.875	4.9	0.766	1	1	30.16	1.187			30.16	1.187		
1704-1016-1016-XXX-X-XX-X	101.6	4	101.6	4	47.6	1.875	47.6	1.875	22.7	3.515	1	1	42.86	1.687			42.86	1.687		
1704-1524-1016-XXX-X-XX-X	152.4	6	101.6	4	98.4	3.875	47.6	1.875	46.9	7.265	2	1	23.81	0.937	88.9	3.5	42.86	1.687		
1704-1270-1270-XXX-X-XX-X	127	5	127	5	73	2.875	73	2.875	53.3	8.265	2	1	17.46	0.687	76.2	3	55.56	2.187		
1704-2032-1016-XXX-X-XX-X	203.2	8	101.6	4	149.2	5.875	47.6	1.875	71.1	11.015	3	1	17.46	0.687	76.2	3	42.86	1.687		
1704-1778-1270-XXX-X-XX-X	177.8	7	127	5	123.8	4.875	73	2.875	90.4	14.015	2	1	36.51	1.437	88.9	3.5	55.56	2.187		
1704-1524-1524-XXX-X-XX-X	152.4	6	152.4	6	98.4	3.875	98.4	3.875	96.9	15.015	2	2	23.81	0.937	88.9	3.5	23.81	0.937	88.9	3.5
1704-3048-1016-XXX-X-XX-X	304.8	12	101.6	4	250.8	9.875	47.6	1.875	119.5	18.515	4	1	60.16	1.187	76.2	3	42.86	1.687		
1704-2032-1524-XXX-X-XX-X	203.2	8	152.4	6	149.2	5.875	98.4	3.875	146.9	22.765	3	2	17.46	0.687	76.2	3	30.16	1.187	76.2	3
1704-1778-1778-XXX-X-XX-X	177.8	7	177.8	7	123.8	4.875	123.8	4.875	153.3	23.765	2	2	36.51	1.437	88.9	3.5	36.51	1.437	88.9	3.5
1704-2540-1270-XXX-X-XX-X	254	10	127	5	200	7.875	73	2.875	146.1	22.64	3	1	30.16	1.187	88.9	3.5	55.56	2.187		
1704-2032-2032-XXX-X-XX-X	203.2	8	203.2	8	149.2	5.875	149.2	5.875	222.7	34.515	3	2	17.46	0.687	76.2	3	49.21	1.937	88.9	3.5
1704-2540-1778-XXX-X-XX-X	254	10	177.8	7	200	7.875	123.8	4.875	247.7	38.39	3	2	30.16	1.187	88.9	3.5	36.51	1.437	88.9	3.5
1704-3048-1524-XXX-X-XX-X	304.8	12	152.4	6	250.8	9.875	98.4	3.875	246.9	38.265	4	2	30.16	1.187	76.2	3	23.81	0.937	88.9	3.5
1704-2540-2032-XXX-X-XX-X	254	10	203.2	8	200	7.875	149.2	5.875	298.5	46.265	3	2	30.16	1.187	88.9	3.5	49.21	1.937	88.9	3.5
1704-3048-2032-XXX-X-XX-X	304.8	12	203.2	8	250.8	9.875	149.2	5.875	374.3	58.015	4	3	30.16	1.187	76.2	3	17.46	0.687	76.2	3
1704-2540-2540-XXX-X-XX-X	254	10	254	10	200	7.875	200	7.875	400.1	62.015	3	3	30.16	1.187	88.9	3.5	30.16	1.187	88.9	3.5
1704-3048-3048-XXX-X-XX-X	304.8	12	304.8	12	250.8	9.875	250.8	9.875	629.1	97.515	4	4	30.16	1.187	76.2	3	30.16	1.187	76.2	3







1705 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1705-0762-0762-XXX-X-XX-X	76.2	3	76.2	3	50.8	2	50.8	2	25.8	4	1	1	31.75	1.25	-	-	31.75	1.25	-	-
1705-1016-1016-XXX-X-XX-X	101.6	4	101.6	4	76.2	3	76.2	3	58.1	9	1	1	44.45	1.75	-	-	44.45	1.75	-	-
1705-1524-1016-XXX-X-XX-X	152.4	6	101.6	4	127	5	76.2	3	96.8	15	2	1	25.4	1	88.9	3.5	44.45	1.75	-	-
1705-1270-1270-XXX-X-XX-X	127	5	127	5	101.6	4	101.6	4	103.2	16	2	1	19.05	0.75	76.2	3	57.15	2.25	-	-
1705-2032-1016-XXX-X-XX-X	203.2	8	101.6	4	177.8	7	76.2	3	135.5	21	3	1	19.05	0.75	76.2	3	44.45	1.75	-	-
1705-1778-1270-XXX-X-XX-X	177.8	7	127	5	152.4	6	101.6	4	154.8	24	2	1	38.1	1.5	88.9	3.5	57.15	2.25	-	-
1705-1524-1524-XXX-X-XX-X	152.4	6	152.4	6	127	5	127	5	161.3	25	2	2	25.4	1	88.9	3.5	25.4	1	88.9	3.5
1705-3048-1016-XXX-X-XX-X	304.8	12	101.6	4	279.4	11	76.2	3	212.9	33	4	1	31.75	1.25	76.2	3	44.45	1.75	-	-
1705-2032-1524-XXX-X-XX-X	203.2	8	152.4	6	177.8	7	127	5	225.8	35	3	2	19.05	0.75	76.2	3	31.75	1.25	76.2	3
1705-1778-1778-XXX-X-XX-X	177.8	7	177.8	7	152.4	6	152.4	6	232.3	36	2	2	38.1	1.5	88.9	3.5	38.1	1.5	88.9	3.5
1705-2540-1270-XXX-X-XX-X	254	10	127	5	228.6	9	101.6	4	232.3	36	3	1	31.75	1.25	88.9	3.5	57.15	2.25	-	-
1705-2032-2032-XXX-X-XX-X	203.2	8	203.2	8	177.8	7	177.8	7	316.1	49	3	2	19.05	0.75	76.2	3	50.8	2	88.9	3.5
1705-2540-1778-XXX-X-XX-X	254	10	177.8	7	228.6	9	152.4	6	348.4	54	3	2	31.75	1.25	88.9	3.5	38.1	1.5	88.9	3.5
1705-3048-1524-XXX-X-XX-X	304.8	12	152.4	6	279.4	11	127	5	354.8	55	4	2	31.75	1.25	76.2	3	25.4	1	88.9	3.5
1705-2540-2032-XXX-X-XX-X	254	10	203.2	8	228.6	9	177.8	7	406.5	63	3	2	31.75	1.25	88.9	3.5	50.8	2	88.9	3.5
1705-3048-2032-XXX-X-XX-X	304.8	12	203.2	8	279.4	11	177.8	7	496.8	77	4	3	31.75	1.25	76.2	3	19.05	0.75	76.2	3
1705-2540-2540-XXX-X-XX-X	254	10	254	10	228.6	9	228.6	9	522.6	81	3	3	31.75	1.25	88.9	3.5	31.75	1.25	88.9	3.5
1705-3048-3048-XXX-X-XX-X	304.8	12	304.8	12	279.4	11	279.4	11	780.6	121	4	4	31.75	1.25	76.2	3	31.75	1.25	76.2	3

Part Number
1705-0762-0762-XX-X-XX-X

Frame Style

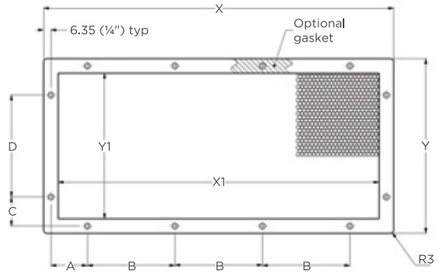
Overall outside dimensions

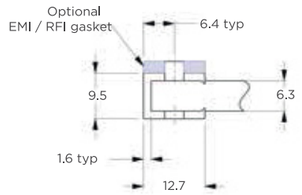
Honeycomb type
T2 = 1 layer 3.18 cell x 6.4mm thick
T3 = 1 layer 1.60 cell x 6.4mm thick

Finishes
S = Surtec 650
N = Nickel plate

Fixings
TH = Through hole 5.5mm dia
NO = No fixings
M3, M4, M5, 8/32 = Threaded inserts

Gaskets
G = Monel knitted wire mesh with neoprene
NG = No gasket





1706 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1706-0762-0762-XXX-X-XX-X	76.2	3	76.2	3	57.2	2	57.2	2	32.7	5	1	1	33.34	1.313	-	-	33.34	1.313	-	-
1706-1016-1016-XXX-X-XX-X	101.6	4	101.6	4	82.6	3	82.6	3	68.1	11	1	1	46.04	1.813	-	-	46.04	1.813	-	-
1706-1524-1016-XXX-X-XX-X	152.4	6	101.6	4	133.4	5	82.6	3	110.1	17	2	1	26.99	1.063	88.9	3.5	46.04	1.813	-	-
1706-1270-1270-XXX-X-XX-X	127	5	127	5	108	4	108	4	116.5	18	2	1	20.64	0.813	76.2	3	58.74	2.313	-	-
1706-2032-1016-XXX-X-XX-X	203.2	8	101.6	4	184.2	7	82.6	3	152	24	3	1	20.64	0.813	76.2	3	46.04	1.813	-	-
1706-1778-1270-XXX-X-XX-X	177.8	7	127	5	158.8	6	108	4	171.4	27	2	1	39.69	1.563	88.9	3.5	58.74	2.313	-	-
1706-1524-1524-XXX-X-XX-X	152.4	6	152.4	6	133.4	5	133.4	5	177.8	28	2	2	26.99	1.063	88.9	3.5	26.99	1.063	88.9	3.5
1706-3048-1016-XXX-X-XX-X	304.8	12	101.6	4	285.8	11	82.6	3	235.9	37	4	1	33.34	1.313	76.2	3	46.04	1.813	-	-
1706-2032-1524-XXX-X-XX-X	203.2	8	152.4	6	184.2	7	133.4	5	245.6	38	3	2	20.64	0.813	76.2	3	33.34	1.313	76.2	3
1706-1778-1778-XXX-X-XX-X	177.8	7	177.8	7	158.8	6	158.8	6	252	39	2	2	39.69	1.563	88.9	3.5	36.69	1.563	88.9	3.5
1706-2540-1270-XXX-X-XX-X	254	10	127	5	235	9	108	4	253.6	39	3	1	33.34	1.313	88.9	3.5	58.74	2.313	-	-
1706-2032-2032-XXX-X-XX-X	203.2	8	203.2	8	184.2	7	184.2	7	339.1	53	3	2	20.64	0.813	76.2	3	52.39	2.063	88.9	3.5
1706-2540-1778-XXX-X-XX-X	254	10	177.8	7	235	9	158.8	6	373	58	3	2	33.34	1.313	88.9	3.5	39.69	1.563	88.9	3.5
1706-3048-1524-XXX-X-XX-X	304.8	12	152.4	6	285.8	11	133.4	5	381	59	4	2	33.34	1.313	76.2	3	26.99	1.063	88.9	3.5
1706-2540-2032-XXX-X-XX-X	254	10	203.2	8	235	9	184.2	7	432.7	67	3	2	33.34	1.313	88.9	3.5	52.39	2.063	88.9	3.5
1706-3048-2032-XXX-X-XX-X	304.8	12	203.2	8	285.5	11	184.2	7	526.2	82	4	3	33.34	1.313	76.2	3	20.64	0.813	76.2	3
1706-2540-2540-XXX-X-XX-X	254	10	254	10	235	9	235	9	552	86	3	3	33.34	1.313	88.9	3.5	33.34	1.313	88.9	3.5
1706-3048-3048-XXX-X-XX-X	304.8	12	304.8	12	285.8	11	285.8	11	816.5	127	4	4	33.34	1.313	76.2	3	33.34	1.313	76.2	3

Part Number
1706-0762-0762-XX-X-XX-X

Frame Style

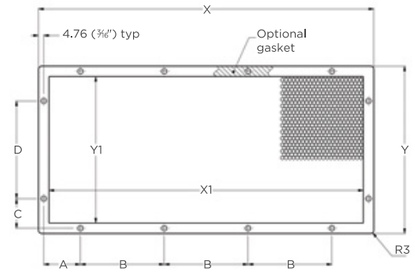
Overall outside dimensions

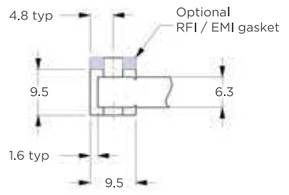
Honeycomb type
T1 = 2 layers 3.18 cell x 3.18mm thick oriented at 90°
T2 = 1 layer 3.18 cell x 6.4mm thick
T3 = 1 layer 1.60 cell x 6.4mm thick

Finishes
S = Surtec 650
N = Nickel plate

Fixings
TH = Through hole 5.5mm dia
NO = No fixings
M3, M4, M5, 8/32 = Threaded inserts

Gaskets
G = Monel knitted wire mesh with neoprene
NG = No gasket





1707 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1707-0762-0762-XXX-X-XX-X	76.2	3	76.2	3	57.2	2	57.2	2	32.7	5	1	1	33.34	1.313	-	-	33.34	1.313	-	-
1707-1016-1016-XXX-X-XX-X	101.6	4	101.6	4	82.6	3	82.6	3	68.1	11	1	1	46.04	1.813	-	-	46.04	1.813	-	-
1707-1524-1016-XXX-X-XX-X	152.4	6	101.6	4	133.4	5	82.6	3	110.1	17	2	1	26.99	1.063	88.9	3.5	46.04	1.813	-	-
1707-1270-1270-XXX-X-XX-X	127	5	127	5	108	4	108	4	116.5	18	2	1	20.64	0.813	76.2	3	58.74	2.313	-	-
1707-2032-1016-XXX-X-XX-X	203.2	8	101.6	4	184.2	7	82.6	3	152	24	3	1	20.64	0.813	76.2	3	46.04	1.813	-	-
1707-1778-1270-XXX-X-XX-X	177.8	7	127	5	158.8	6	108	4	171.4	27	2	1	39.69	1.563	88.9	3.5	58.74	2.313	-	-
1707-1524-1524-XXX-X-XX-X	152.4	6	152.4	6	133.4	5	133.4	5	177.8	28	2	2	26.99	1.063	88.9	3.5	26.99	1.063	88.9	3.5
1707-3048-1016-XXX-X-XX-X	304.8	12	101.6	4	285.8	11	82.6	3	235.9	37	4	1	33.34	1.313	76.2	3	46.04	1.813	-	-
1707-2032-1524-XXX-X-XX-X	203.2	8	152.4	6	184.2	7	133.4	5	245.6	38	3	2	20.64	0.813	76.2	3	33.34	1.313	76.2	3
1707-1778-1778-XXX-X-XX-X	177.8	7	177.8	7	158.8	6	158.8	6	252	39	2	2	39.69	1.563	88.9	3.5	39.69	1.563	88.9	3.5
1707-2540-1270-XXX-X-XX-X	254	10	127	5	235	9	108	4	253.6	39	3	1	33.34	1.313	88.9	3.5	58.74	2.313	-	-
1707-2032-2032-XXX-X-XX-X	203.2	8	203.2	8	184.2	7	184.2	7	339.1	53	3	2	20.64	0.813	76.2	3	52.39	2.063	88.9	3.5
1707-2540-1778-XXX-X-XX-X	254	10	177.8	7	235	9	158.8	6	373	58	3	2	33.34	1.313	88.9	3.5	39.69	1.563	88.9	3.5
1707-3048-1524-XXX-X-XX-X	304.8	12	152.4	6	285.8	11	133.4	5	381	59	4	2	33.34	1.313	76.2	3	26.99	1.063	88.9	3.5
1707-2540-2032-XXX-X-XX-X	254	10	203.2	8	235	9	184.2	7	432.7	67	3	2	33.34	1.313	88.9	3.5	52.39	2.063	88.9	3.5
1707-3048-2032-XXX-X-XX-X	304.8	12	203.2	8	285.8	11	184.2	7	526.2	82	4	3	33.34	1.313	76.2	3	20.64	0.813	76.2	3
1707-2540-2540-XXX-X-XX-X	254	10	254	10	235	9	235	9	552	86	3	3	33.34	1.313	88.9	3.5	33.34	1.313	88.9	3.5
1707-3048-3048-XXX-X-XX-X	304.8	12	304.8	12	285.5	11	285.5	11	816.2	127	4	4	33.34	1.313	76.2	3	33.34	1.313	76.2	3

Part Number
1707-0762-0762-XX-X-XX-X

Frame Style

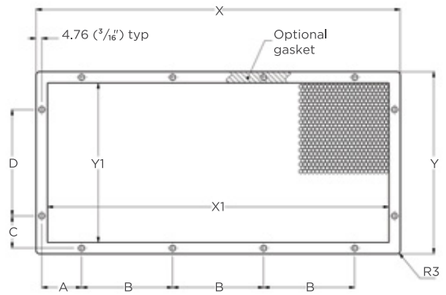
Overall outside dimensions

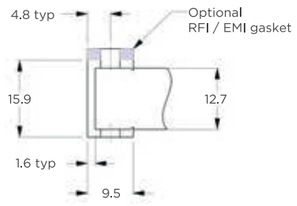
Honeycomb type
T4 = 2 layers 3.18 cell x 6.4mm thick oriented at 90º
T6 = 1 layer 3.18 cell x 12.7mm thick

Finishes
S = Surtec 650
N = Nickel plate

Fixings
TH = Through hole 5.5mm dia
NO = No fixings
M3, M4, M5, 8/32 = Threaded inserts

Gaskets
G = Monel knitted wire mesh with neoprene
NG = No gasket





1709 Standard Frames

Custom sizes and shapes available.

Part Number	Outer Dimensions				Open Area				Open Area²		Fixings		Fixing Locations							
	X		Y		X1		Y1						A		B		C		D	
	mm	in.	mm	in.	mm	in.	mm	in.	cm2	in.2	X	Y	mm	in.	mm	in.	mm	in.	mm	in.
1709-0762-0762-XXX-X-XX-X	76.2	3	76.2	3	57.2	2	57.2	2	32.7	5	1	1	33.34	1.313	-	-	33.34	1.313	-	-
1709-1016-1016-XXX-X-XX-X	101.6	4	101.6	4	82.6	3	82.6	3	68.1	11	1	1	46.04	1.813	-	-	46.04	1.813	-	-
1709-1524-1016-XXX-X-XX-X	152.4	6	101.6	4	133.4	5	82.6	3	110.1	17	2	1	26.99	1.063	88.9	3.5	46.04	1.813	-	-
1709-1270-1270-XXX-X-XX-X	127	5	127	5	108	4	108	4	116.5	18	2	1	20.64	0.813	76.2	3	58.74	2.313	-	-
1709-2032-1016-XXX-X-XX-X	203.2	8	101.6	4	184.2	7	82.6	3	152	24	3	1	20.64	0.813	76.2	3	46.04	1.813	-	-
1709-1778-1270-XXX-X-XX-X	177.8	7	127	5	158.8	6	108	4	171.4	27	2	1	39.69	1.563	88.9	3.5	58.74	2.313	-	-
1709-1524-1524-XXX-X-XX-X	152.4	6	152.4	6	133.4	5	133.4	5	177.8	28	2	2	26.9	1.063	88.9	3.5	26.99	1.063	88.9	3.5
1709-3048-1016-XXX-X-XX-X	304.8	12	101.6	4	285.8	11	82.6	3	235.9	37	4	1	33.34	1.313	76.2	3	46.04	1.813	-	-
1709-2032-1524-XXX-X-XX-X	203.2	8	152.4	6	184.2	7	133.4	5	245.6	38	3	2	20.64	0.813	76.2	3	33.34	1..313	76.2	3
1709-1778-1778-XXX-X-XX-X	177.8	7	177.8	7	158.8	6	158.8	6	252	39	2	2	36.69	1.563	88.9	3.5	39.69	1.563	88.9	3.5
1709-2540-1270-XXX-X-XX-X	254	10	127	5	235	9	108	4	253.6	39	3	1	33.34	1.313	88.9	3.5	58.74	2.313	-	-
1709-2032-2032-XXX-X-XX-X	203.2	8	203.2	8	184.2	7	184.2	7	339.1	53	3	2	20.64	0.813	76.2	3	52.39	2.063	88.9	3.5
1709-2540-1778-XXX-X-XX-X	254	10	177.8	7	235	9	158.8	6	373	58	3	2	33.34	1.313	88.9	3.5	39.69	1.563	88.9	3.5
1709-3048-1524-XXX-X-XX-X	304.8	12	152.4	6	285.8	11	133.4	5	381	59	4	2	33.34	1.313	76.2	3	26.99	1.063	88.9	3.5
1709-2540-2032-XXX-X-XX-X	254	10	203.2	8	235	9	184.2	7	432.7	67	3	2	33.34	1.313	88.9	3.5	52.39	2.063	88.9	3.5
1709-3048-2032-XXX-X-XX-X	304.8	12	203.2	8	285.8	11	184.2	7	526.2	82	4	3	33.34	1.313	76.2	3	20.64	0.813	76.2	3
1709-2540-2540-XXX-X-XX-X	254	10	254	10	235	9	235	9	552	86	3	3	33.34	1.313	88.9	3.5	33.34	1.313	88.9	3.5
1709-3048-3048-XXX-X-XX-X	304.8	12	304.8	12	285.8	11	285.8	11	816.5	127	4	4	33.34	1.313	76.2	3	33.34	1.313	76.2	3

Part Number
1709-0762-0762-XX-X-XX-X

Frame Style

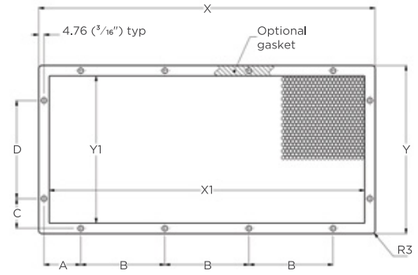
Overall outside dimensions

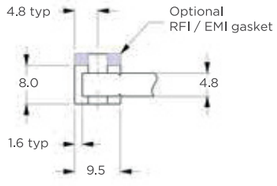
Honeycomb type
T2 = 1 layer 3.18 cell x 6.4mm thick
T3 = 1 layer 1.60 cell x 12.7mm thick

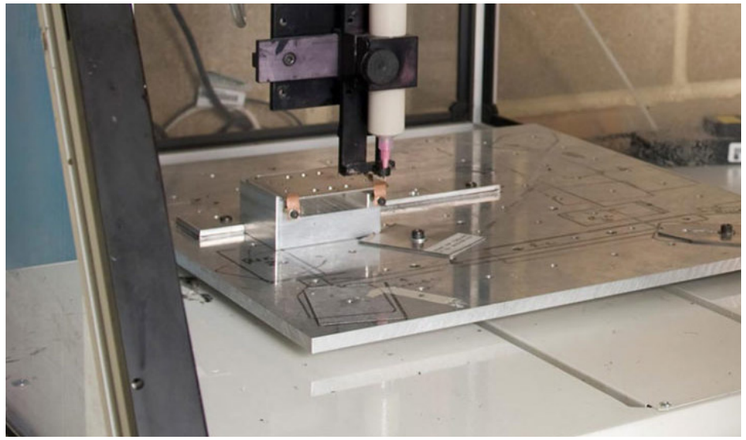
Finishes
S = Surtec 650
N = Nickel plate

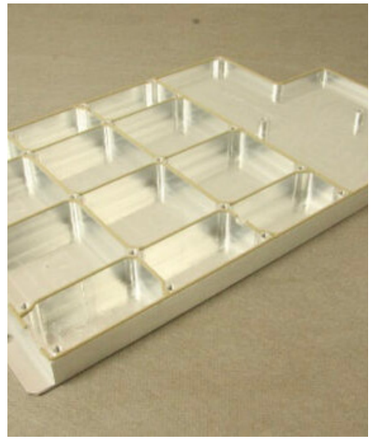
Fixings
TH = Through hole 5.5mm dia
NO = No fixings
M3, M4, M5, 8/32 = Threaded inserts

Gaskets
G = Monel knitted wire mesh with neoprene
NG = No gasket









FORM-IN-PLACE GASKETS

Kemtron Form-in-Place (FIP) Elastomer compounds are directly dispensed onto component hardware or enclosure via a pressurised fluid dispensing system on a numerically controlled XYZ table to form a gasket for RFI/EMI shielding and/or environmental seal for dust and moisture. The dispensing machine deposits the gasket by following a pre-determined CNC path to provide accuracy vand repeatability.

THE PROCESS ADVANTAGES ARE

- Component is integrated with EMI shielding and/or environmental gasket
- Materials are one-component room curable
- Assembly time is reduced as gasket is included on component
- Rapid prototyping
- Low setup costs
- Smaller gasket land required
- Variety of materials available to optimise shielding and galvanic compatibility
- No material waste
- Excellent EMI shielding
- Can be applied to metal and plastic components

APPLICATIONS

Suited to applications where small, intricate gasket profiles are required, such as on multi-compartment labyrinth housings with minimum gasket land area where traditional larger types of gasket are not suitable. This process also negates the assembly costs associated with traditional gaskets as the Form-in-Place gasket becomes an integral part of the housing or enclosure. The process is suitable for depositing on both metal and metallised plastic components/housing.

AVAILABILITY

Kemtron can dispense FIP gaskets directly onto the customer's free issue hardware or can procure the component hardware thereby reducing the customer's supply base. Kemtron can also supply FIP compounds in syringes or Semco® cartridges for the customer's own use.

FORM-IN-PLACE GASKET MATERIALS INCLUDE

For RFI/EMI Shielding

- Silver plated copper filled silicone
- Silver plated aluminium filled silicone
- Silver plated nickel filled silicone
- Nickel coated graphite filled silicone

For Environmental Sealing only

- Unfilled silicone

DESIGN CONSIDERATIONS

- To achieve optimum EMI shielding performance the component surface on which the gasket is to be deposited must be highly conductive as low contact resistance is required between the two. Chromate finishes on aluminium must be conductive.
- The gasket height can be specified between 0.4mm to 2.0mm, gasket width will typically be 1.5 x the gasket height. General tolerance is ± 0.1mm.
- Recommended gasket compression is between 20% and 30%. Over-compression can damage the gasket and as compression stops cannot be incorporated into the gasket they should be designed into the component hardware.
- Gasket path for the deposition can be determined from a sample part, drawings or CAD files.

PRODUCTION CAPABILITY

To meet the varying demands of customer requirements Kemtron has developed its own CNC Form-in-Place dispenser. FIP gasketing work has become a regular feature of our production work and we are able to provide a reliable, accurate and quick response to even high volume orders.

MATERIALS

Silver Plated Copper Particles in Silicone Elastomer FIPSSC	
Density	3.3g/cm^{-3}
Hardness	40 Shore A
Volume resistivity	<0.01Ω.cm
Adhesion	>50 N/cm^{-2}
Attenuation – 100 MHz to 10 GHz (MIL-STD 285)	100-120 dB (typically)
Compression recommended – (allowable range)	25% (10 – 50%)
Gasket resistance	<0.5Ω.cm^{-1}
Elongation	100%
Compression set – 70 hrs at 23°C	<20%
Service temperature range	-55°C to 125°C
Force/deflection – 0.7mm high gasket section	1.4 N/cm^{-1} @ 10%
	3.3 N/cm^{-1} @ 25%
	14.8 N/cm^{-1} @ 50%

Silver Plated Aluminium Particles in Silicone Elastomer FIPSSA	
Density	2.0g/cm^{-3}
Hardness	50 Shore A
Volume resistivity	<0.01Ω.cm
Adhesion	>50 N/cm^{-2}
Attenuation – 100 MHz to 10 GHz (MIL-STD 285)	85-110 dB (typically)
Compression recommended – (allowable range)	25% (10 – 50%)
Gasket resistance	<0.5Ω.cm^{-1}
Elongation	100%
Compression set – 70 hrs at 23°C	<20%
Service temperature range	-55°C to 125°C
Force/deflection – 0.7mm high gasket section	1.5 N/cm^{-1} @ 10%
	3.5 N/cm^{-1} @ 25%
	16 N/cm^{-1} @ 50%

Nickel Plated Graphite Particles in Silicone Elastomer FIPSNG	
Density	2.5g/cm^{-3}
Hardness	50 Shore
Volume resistivity	<0.01Ω.cm
Adhesion	>50 N/cm^{-2}
Attenuation – 100 MHz to 10 GHz (MIL-STD 285)	85-110 dB (typically)
Compression recommended – (allowable range)	25% (10 – 50%)
Gasket resistance	<0.5Ω.cm^{-1}
Elongation	100%
Compression set – 70 hrs at 23°C	<20%
Service temperature range	-55°C to 150°C
Force/deflection – 0.7mm high gasket section	2.8 N/cm^{-1} @ 10%
	7.4 N/cm^{-1} @ 25%
	26.4 N/cm^{-1} @ 50%

Silver Plated Nickel Particles in Silicone Elastomer FIPSSN	
Density	3.6g/cm^{-3}
Hardness	45 Shore A
Volume resistivity	<0.01Ω.cm
Adhesion	>50 N/cm^{-2}
Attenuation – 100 MHz to 10 GHz (MIL-STD 285)	90-110 dB (typically)
Compression recommended – (allowable range)	25% (10 – 50%)
Gasket resistance	<0.5Ω.cm^{-1}
Elongation	100%
Compression set – 70 hrs at 23°C	<20%
Service temperature range	-55°C to 150°C
Force/deflection – 0.7mm high gasket section	1.7 N/cm^{-1} @ 10%
	4.1 N/cm^{-1} @ 25%
	20.7 N/cm^{-1} @ 50%

TYPICAL FORM-IN-PLACE DEPOSITS

Notice

Information supplied in these data sheets is based on independent and laboratory tests which TE Connectivity believes to be reliable. TE Connectivity. has no control over the design of customer's product which incorporates TE Connectivity's products, therefore it is the responsibility of the user to determine the suitability for his particular application and we recommend that the user make his own test to determine suitability. The product described in this data sheet shall be of standard quality, however the products are sold without warranty of fitness for a particular purpose, either expressed or implied, except to the extent expressly stated on TE Connectivity's invoice, quotation or order acknowledgement. TE Connectivity does not warrant that products described in this data sheet will be free of conflict with existing or future patents of third parties. All risks of lack of fitness, patent infringement and the like are assumed by the user.

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