

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.

Kemtron'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 +200°C
- Fluorosilicone for harsh environments: Fuel oils and solvents.
- Choice of materials for galvanic compatibility
- Flame retardant to UL94 V-0
- Conductive self adhesive backing on sheets.

Material Selection

Kemtron manufacture 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.
- **Silver Plated Copper:** This material offers excellent RFI/EMI shielding performance across the frequency 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- **Nickel:** This product has largely been replaced by Nickel Graphite but is still widely used in military and aerospace applications.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.

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 Chloroprene rubber, they are not affected by aliphatic oils however they swell in naphthenic 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 former's 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

Kemtron'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 Kemtron 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 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

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.

Test Results

Listed below are the test results of Kemtron'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. Kemtron offer the performance data and methods of testing to MIL-DTL-83528 for comparison only. All of Kemtron'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.

Kemtron 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 QA department and our in-house qualified Polymer Engineer / Chemist ensuring proven consistency and traceable results.

Test Description	Material Performance									
	SNG VMQ	SNG-FR VMQ	SSA VMQ	SSA65B VMQ	SSC VMQ	SN VMQ	FNG FVMQ	FSA70 FVMQ	FSC FVMQ	FN FVMQ
Elastomer Binder										
Conductive Filler	Ni/C	Ni/C	Ag/Al	Ag/Al	Ag/Cu	Ni	Ni/C	Ag/Al	Ag/Cu	Ni
Colour	Dark Grey	Light Grey	Tan	Blue	Tan	Dark Grey	Dark Green	Light Green	Green	Dark Green
Volume Resistivity MIL-DTL 83528 (ohm-cm, max.) As supplied (without pressure sensitive adhesive)	0.05	0.05	0.008	0.008	0.004	0.1	0.05	0.012	0.01	0.1
Hardness (ShoreA±7) ASTM D2240	60	65	65	65	65	65	65	70	75	70
Specific Gravity (±13%) ASTM D792	2.0	2.0	2.0	2.0	3.5	4.5	2.2	2.0	4.0	4.8
Tensile Strength (lb./in. min) ASTM D412	200	250	200	200	200	200	200	180	180	180
Elongation % min ASTM D412	150	100	100	100	100	150	150	60	100	150
Tear Strength (lb./in. min) ASTM D624	50	35	30	30	25	40	40	35	35	40
Compression Set ASTM D395 – Method B – 70 hrs @ 100°C (%), min	25	30	32	32	32	30	30	30	35	30
Compression / Deflection ASTM D575 – Method B 100 psi on 1.58mm% max	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Operating Temperatures Max °C Min °C	160 -55	160 -55	160/200 -55	160/200 -55	125 -55	160 -55	160 -55	160/200 -55	125 -55	160 -55
Shielding Effectiveness MIL-DTL 83528 (dB)										
20 MHz	106	106	108	106	106	106	106	106	90	103
40 MHz	105	105	106	106	106	105	105	105	106	104
60 MHz	106	105	109	107	106	105	105	107	106	105
80 MHz	114	111	118	114	112	111	110	111	112	111
100 MHz	111	108	109	108	107	109	108	106	106	108
200 MHz	116	114	117	116	114	114	114	106	115	112
400 MHz	119	112	123	120	111	121	116	117	114	117
600 MHz	112	105	114	112	105	111	106	106	108	110
800 MHz	114	109	120	119	116	131	116	120	112	112
1 GHz	118	108	114	116	112	111	108	112	111	114
2 GHz	111	102	101	102	105	100	100	106	104	101
4 GHz	100	106	107	102	113	102	104	112	102	101
6 GHz	104	103	105	106	100	105	104	97	104	101
8 GHz	110	115	105	104	106	106	106	114	112	103
10 GHz	110	109	102	109	107	106	105	112	115	107
Electrical Stability After Break (Ohm-cm, max)	0.1	0.1	0.015	0.015	0.008	0.2	0.15	0.015	0.015	0.2
Heat Ageing MIL-DTL 83528 – 48 hrs at 1.25 X Max – Operating Temperature – Ohm-cm, max	0.1	0.1	0.01	0.01	0.01	0.2	0.2	0.015	0.015	0.2

FSA and SSA materials have a maximum intermittent operating temperature range of 200°C for periods of up to 48 hrs.

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 v 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;

$$\text{Compression set at Constant Strain} = \frac{t_o - t_r}{t_o - t_s} \times 100$$

Where	
t_o	is the original thickness
t_r	is the thickness after recovery
t_s	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. Kemtron recommend 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

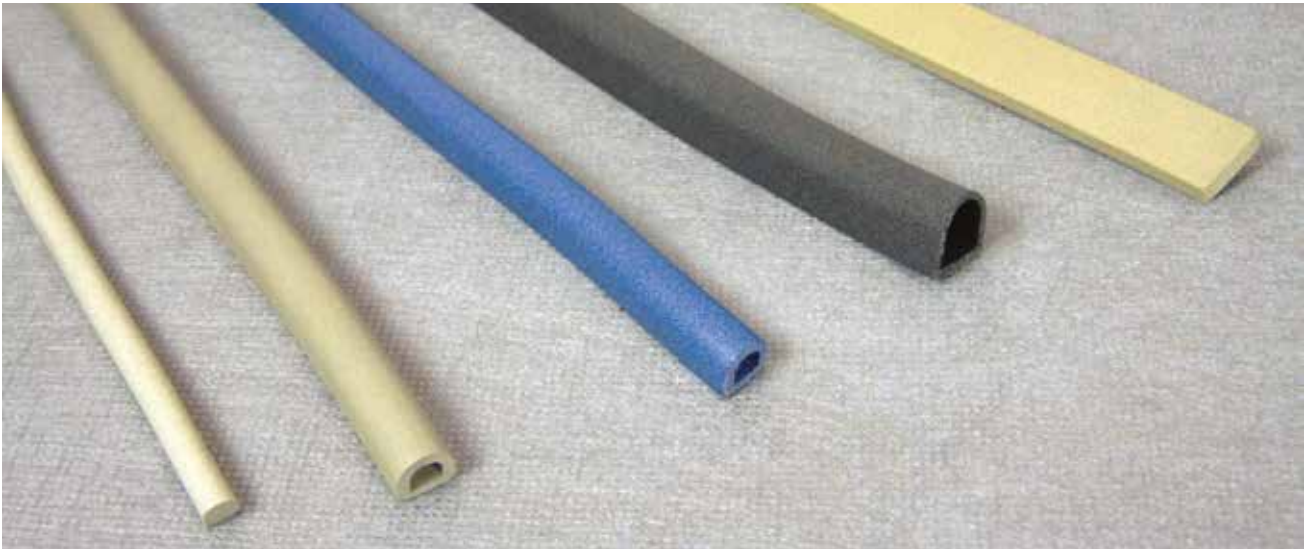
Exposure to any UV source (i.e artificial or natural light) should be avoided if possible. It should be kept stored in light proof, sulphur free packaging.

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.



Product Overview

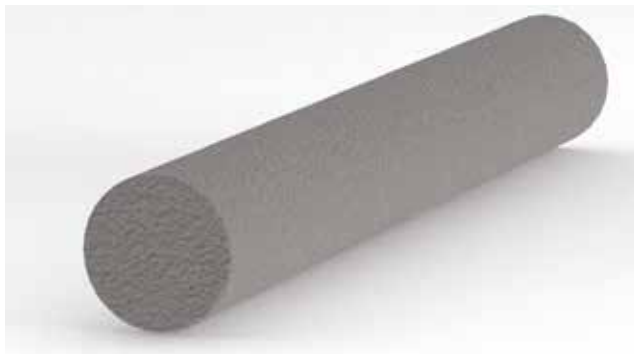
Kemtron manufacture a wide variety of profiles from our standard tooling. We are also able to produce to your exact requirement with minimal tooling cost.

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 groove 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

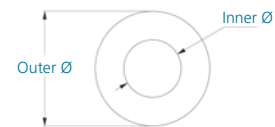


Diameter Ø	Part Number
1.00mm	1201-XXX-0010
1.10mm	1201-XXX-0011
1.20mm	1201-XXX-0012
1.30mm	1201-XXX-0013
1.40mm	1201-XXX-0014
1.50mm	1201-XXX-0015
1.60mm	1201-XXX-0016
1.80mm	1201-XXX-0018
2.00mm	1201-XXX-0020
2.20mm	1201-XXX-0022
2.40mm	1201-XXX-0024
2.50mm	1201-XXX-0025
2.80mm	1201-XXX-0028
3.00mm	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-0026-0010
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-0055-0020

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-0052-0028
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

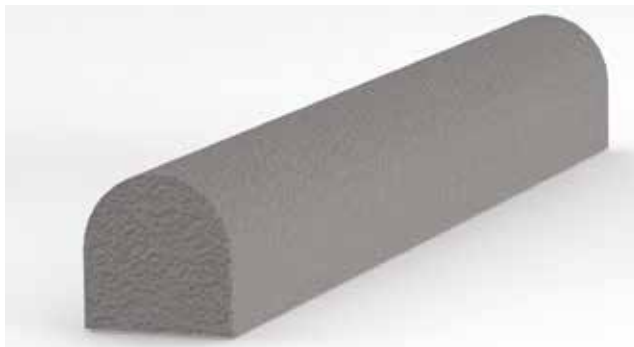
Outer Ø	Inner Ø	Part Number
6.30mm	3.0mm	1202-XXX-0063-0030
6.40mm	3.0mm	1202-XXX-0064-0030
6.50mm	3.0mm	1202-XXX-0065-0030
6.60mm	3.0mm	1202-XXX-0066-0030
6.70mm	3.0mm	1202-XXX-0067-0030
6.80mm	3.0mm	1202-XXX-0068-0030
6.90mm	3.0mm	1202-XXX-0069-0030
7.00mm	3.0mm	1202-XXX-0070-0030
7.00mm	3.0mm	1202-XXX-0070-0030
7.10mm	3.0mm	1202-XXX-0071-0030
7.20mm	3.0mm	1202-XXX-0072-0030
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	4.5mm	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

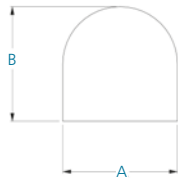
Outer Ø	Inner Ø	Part Number
8.10mm	5.0mm	1202-XXX-0081-0050
8.20mm	5.0mm	1202-XXX-0082-0050
8.30mm	5.0mm	1202-XXX-0083-0050
8.40mm	5.0mm	1202-XXX-0084-0050
8.50mm	5.0mm	1202-XXX-0085-0050
8.60mm	5.0mm	1202-XXX-0086-0050
8.70mm	5.0mm	1202-XXX-0087-0050
8.80mm	5.0mm	1202-XXX-0088-0050
8.90mm	5.0mm	1202-XXX-0089-0050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



Technical Specifications: Solid D

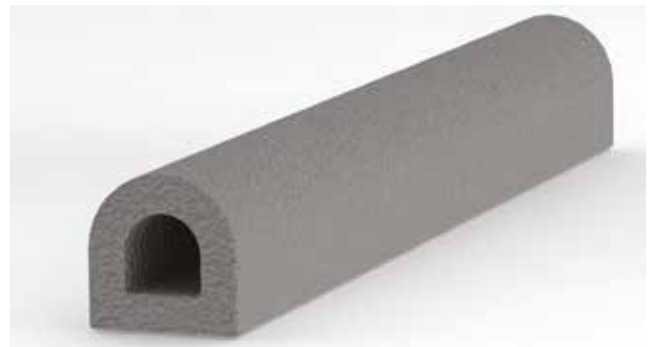


Profile: 1203

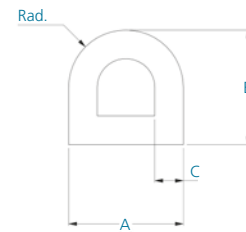


Width A	Height B	Part Number
1.40mm	1.63mm	1203-XXX-0014-0016
1.57mm	1.73mm	1203-XXX-0016-0017
2.39mm	1.98mm	1203-XXX-0024-0020
1.98mm	2.26mm	1203-XXX-0020-0023
1.57mm	2.54mm	1203-XXX-0016-0025
3.81mm	2.79mm	1203-XXX-0038-0028
3.00mm	3.96mm	1203-XXX-0030-0040
4.52mm	4.45mm	1203-XXX-0045-0045
3.96mm	3.96mm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

Technical Specifications: Hollow D



Profile: 1204

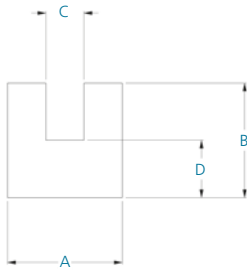


Width A	Height B	Wall C	Radii R	Part Number
3.96mm	3.96mm	1.14mm	1.98mm	1204-XXX-0040-0040
4.75mm	4.72mm	1.27mm	2.36mm	1204-XXX-0048-0048
7.92mm	7.92mm	1.27mm	3.96mm	1204-XXX-0080-0080
7.92mm	7.92mm	1.57mm	3.96mm	1204-XXX-0081-0081
12.37mm	8.23mm	2.03mm	6.20mm	1204-XXX-0124-0080
6.35mm	6.35mm	1.65mm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

Technical Specifications: Channel

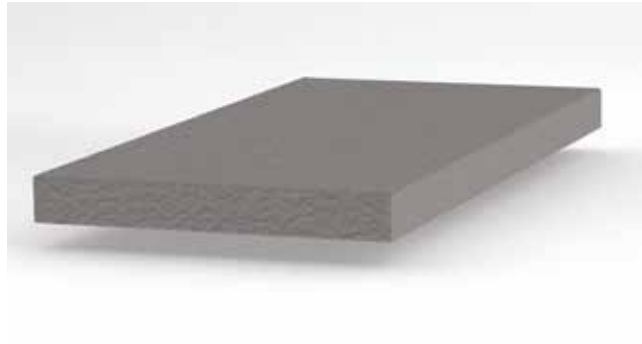


Profile: 1206

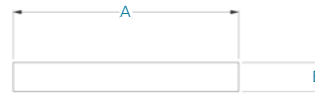


Dim A	Dim B	Dim C	Dim D	Part Number
2.54mm	2.54mm	0.86mm	0.84mm	1206-XXX-0025-0025
3.20mm	2.79mm	0.66mm	1.27mm	1206-XXX-0032-0028
3.20mm	5.72mm	0.51mm	1.91mm	1206-XXX-0032-0058
3.96mm	3.94mm	1.57mm	1.19mm	1206-XXX-0040-0040
4.45mm	3.96mm	1.19mm	1.91mm	1206-XXX-0045-0040
8.31mm	5.94mm	1.57mm	2.92mm	1206-XXX-0080-0060

Technical Specifications: Flat Strip



Profile: 1207

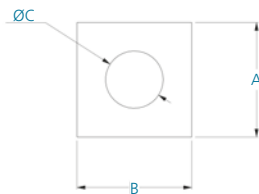


Dim A	Dim B	Part Number
1.60mm	1.07mm	1207-XXX-0016-0010
2.41mm	1.57mm	1207-XXX-0024-0016
3.05mm	1.91mm	1207-XXX-0030-0020
3.18mm	1.57mm	1207-XXX-0032-0016
3.96mm	1.57mm	1207-XXX-0040-0016
6.35mm	1.57mm	1207-XXX-0064-0016
12.70mm	1.91mm	1207-XXX-0127-0020
12.70mm	3.18mm	1207-XXX-0127-0032
12.70mm	4.78mm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

Technical Specifications: Hollow Rectangular



Profile: 1208



Dim A	Dim B	ØC	Part Number
7.75mm	8.38mm	3.18mm	1208-XXX-0078-0084
9.53mm	9.53mm	4.78mm	1208-XXX-0095-0095

Tolerances

- Up to 2.0mm \pm 0.1mm
- 2.1mm to 5.0mm \pm 0.15mm
- 5.1mm to 9.0mm \pm 0.2mm

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	SN
Fluorosilicone Nickel	FN

How To Order

Select chosen profile and size from our extrusion section then insert the material code XXX (1201-XXX-0030).

Example

1201-SNG-0030 = Silicone nickel graphite 3.0mm dia cord.

Gaskets in Grooves

For the typical electronic enclosure, groove mounted gaskets are better than surface mounted gaskets because when the gasket is compressed in the groove the two mating flanges can come into contact with each other thereby enhancing the EMC performance with the advantage of the groove acting as a compression stop and therefore protecting the gasket from damage at the same time.

Solid and Hollow Gaskets in Grooves

Because solid and tubular style gaskets, when compressed, cannot change their volume the groove has to be larger in width to accommodate the change in shape, otherwise severe gasket damage can be caused when the flanges are fixed together. This can result in loss of compression on the gasket and "compression set" occurring. This will give a reduction of shielding effectiveness, coupled with the possibility of environmental leakage. The groove width should be from 5% to 35% larger than the gasket width, but this is dependent upon the gasket profile being used. For example, a round section gasket has less volume than a square section gasket of the same diameter/width.

The important factor is that in the worst case of high tolerances on the gasket size versus low tolerances on the groove size is that when the gasket is compressed by both flanges, it fills the available space by no more than 100%, i.e.: the volume of the accommodating groove with both flanges touching should be equal to, but be no less than the volume of the gasket cross section.

Knife Edge into Grooves with Tubular Gaskets

Large applications, such as cabinets, may use a tubular type gasket fitted into a groove and the mating flange known as a knife edge. The knife edge plunges into the gasket causing the seal. With tubular gaskets the knife edge collapses the gasket rather than compressing it. The knife edge should not penetrate the gasket by more than 50% of its diameter or there may be a danger of the gasket being unable to recover due to the excess pressure applied by the knife edge.

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. Kemtron are able to supply samples for evaluation purposes.

Cord Diametermm	Force per 100mm			
	10	15	20	25
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

- Up to 2mm ± 0.1mm
- 2.1mm to 5mm ± 0.15mm
- 5.1mm to 9mm ± 0.2mm

It is also important to consider the tolerances of the gasket and the groove.

Compressed Gasket



Internal Bend Radius: Casting with Solid Cord Gasket

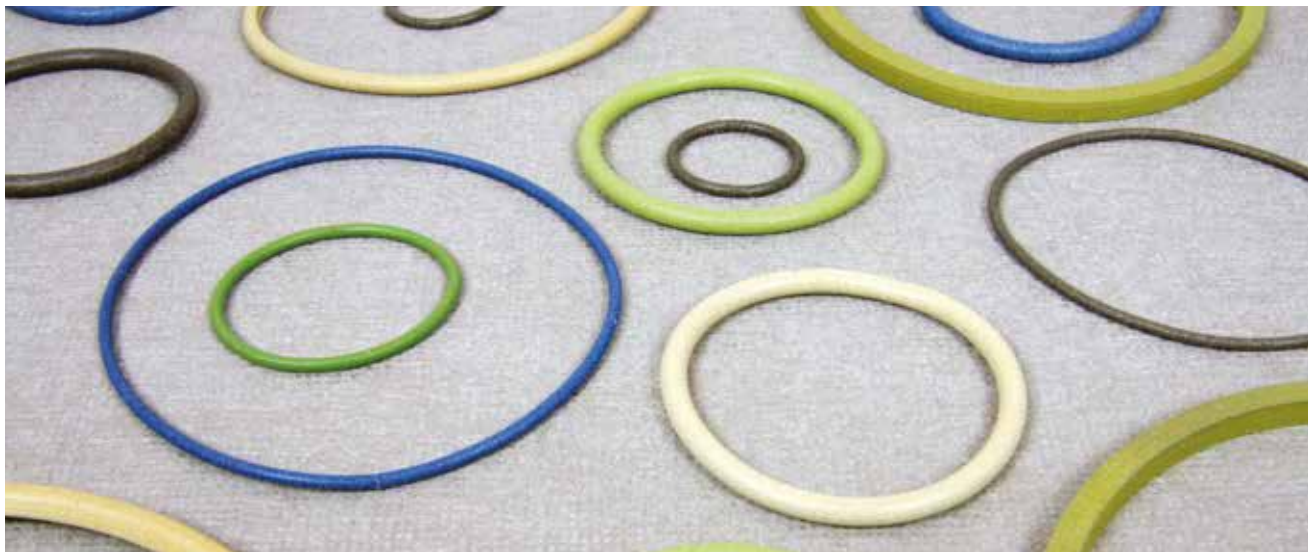


The minimum internal bend radius of a solid cord gasket is 1.5 x cross section of cord.

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.



Product Overview

Kemtron's experience in the manufacture of O-Rings is very comprehensive. Our manufacturing methods include moulding or extruded sections that are cut to length and vulcanise jointed, these methods allow us to offer a range of solutions to meet your requirements with short delivery times.

Most of the Kemtron conductive elastomer profile range is available as O-Rings in all conductive silicone & fluorosilicone grades.

Moulded O-Rings

- Moulding is a process that produces a joint-less O-Ring making it suitable in applications where a sheer force may be applied during compression.
- Sections other than round are often better moulded as they lay flat keeping the correct orientation of the profile.
- Good repeatable tolerances can be achieved with moulding (See tolerances).
- Moulded rings are ideal where a small cross section or a very small inside diameter is required.

Jointed O-Rings

- Cost effective on large or custom developed lengths.
- No tooling costs on any developed length.
- Better surface finish (Zero flash).
- Hollow tube sections can be vulcanised jointed into O-Rings for use when a lower compression force is required.
- Tight tolerances on section diameter and developed length (See tolerances).
- The vulcanised jointing process uses the same conductive base compound as the O-Ring material ensuring compatibility of all attributes.

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 groove.

- If the gasket is to fit in a groove. It is important that the gasket size chosen does not overfill the channel, 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.
- Attention must also be paid to the closing force required to compress the gasket to the working height required.

Extruded & Vulcanised Tolerances

- Up to 2.0mm \pm 0.1mm
- 2.1mm to 5.0mm \pm 0.15mm
- 5.1mm to 9.0mm \pm 0.2mm
- Developed length \pm 1.5mm = less than \pm 0.5mm on diameter.

Moulded Tolerances

- Maximum Tooling Mismatch 0.08mm
- Flash and parting line projection:
Maximum thickness 0.15mm
Maximum protrusion 0.15mm
- Cross section:
Up to 2.0mm \pm 0.15
Over 2.1mm \pm 0.20
Inside diameter \pm 0.25



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	10mm
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 Tube Cross Section	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

Standard Tube Cross Section	Part Number
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-0030-0015-0500 = 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-0335
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

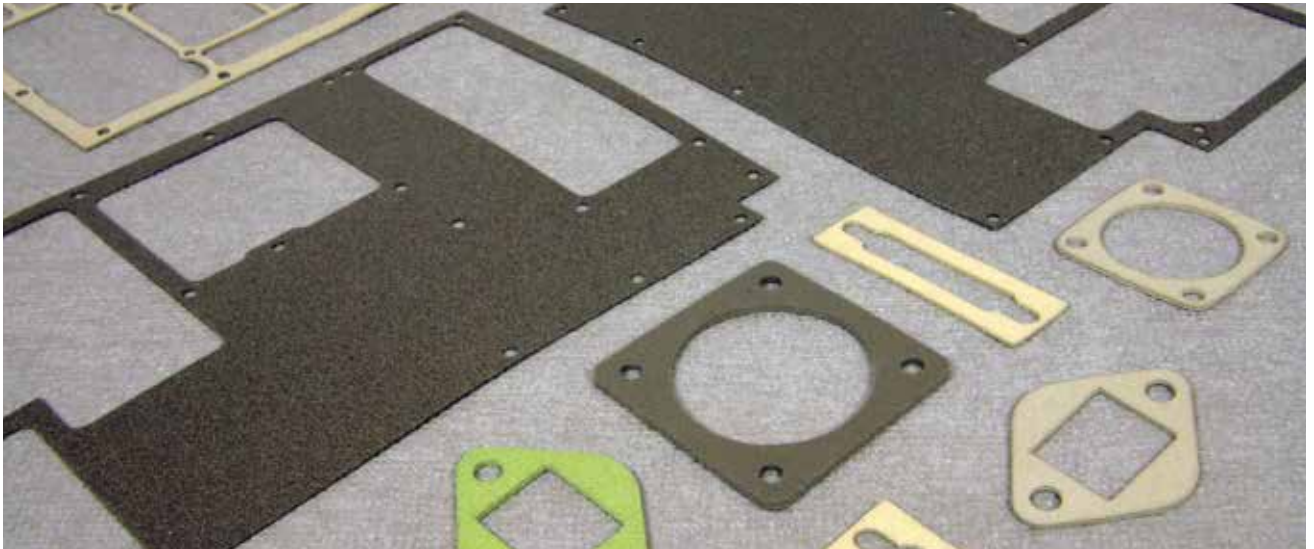
Inside Ø of O-Ring	Part Number
87.00mm	1302-XXX-XXXX-XXXX-0870
87.50mm	1302-XXX-XXXX-XXXX-0875
88.00mm	1302-XXX-XXXX-XXXX-0880
88.50mm	1302-XXX-XXXX-XXXX-0885
89.00mm	1302-XXX-XXXX-XXXX-0890
89.50mm	1302-XXX-XXXX-XXXX-0895
90.00mm	1302-XXX-XXXX-XXXX-0900
90.50mm	1302-XXX-XXXX-XXXX-0905
91.00mm	1302-XXX-XXXX-XXXX-0910
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
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





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 Kemtron 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	SN
Fluorosilicone Nickel	FN

Standard Sheet Sizes

- 150mm x 150mm (code 1210)
- 250mm x 300mm (code 1211)
- 300mm x 300mm (code 1212)

Standard Thickness

- 0.5mm
- 0.8mm
- 1.0mm
- 1.2mm
- 1.5mm
- 1.6mm
- 2.0mm
- 2.5mm
- 3.0mm
- 3.2mm

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

Self Adhesive Backing

Conductive elastomer sheets can be supplied with a conductive or non conductive adhesive. This adhesive has a shelf life of 6 months and is intended as an assembly aid only.

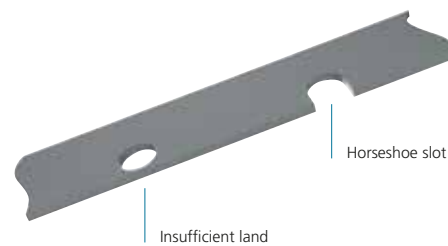
Dimensional Tolerances

- Thickness:
 - ± 0.15mm up to 2mm
 - ± 0.25mm above 2.1mm
- Linear ± 0.8mm
- Hole Centre's ± 0.4mm

Minimum Land



Horse Shoe Slot



How To Order

Select the sheet size code followed by the material code and finally the thickness using 4 numerical digits to 1 decimal place. If self adhesive backing is required, add after the part number CSAB for conductive, SAB for non conductive.

Example

1210-FNG-0008 = Fluorosilicone Nickel Graphite
150mm x 150mm x 0.8mm.

1211-SSA-0015 SAB = Silicone Silver Aluminium self adhesive backed
250mm x 300mm x 1.5mm.

For die cut gaskets please supply a detailed drawing.

Surface Mounted Gaskets

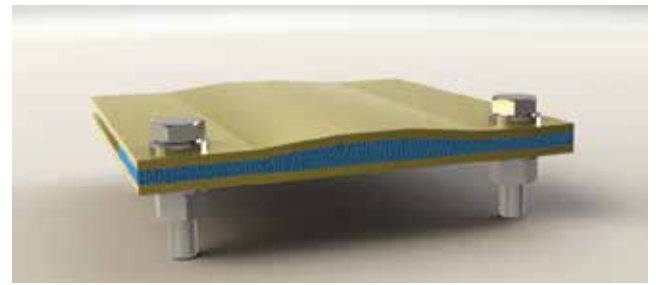
With surface mounted elastomeric gaskets, the aim should be to limit the compression of the gasket to between 10% and 20%. 10% being the minimum with a solid silicone style of gasket. (Some form of compression stop or limit is essential with surface mounted gaskets to prevent over compression).

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.

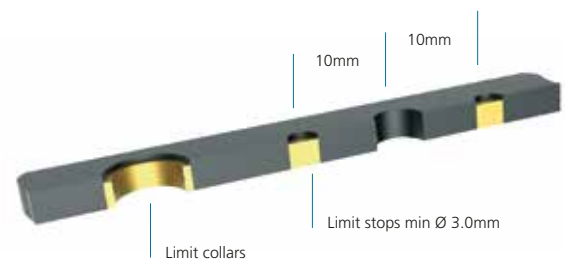
The thickness of the gasket for a known application can be calculated as follows e.g. Consider a gasket which can be compressed between 10% and 25% to be used on flanges which are not perfectly flat, i.e. the flanges without gaskets touch at some points and leave gaps in others. Since the gasket will 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



Notice

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