

# SILSHIELD | Oriented Wires in Silicone

## S Shielding

### Applications:

Oriented wires in silicone is probably the most versatile of gasket materials. All variants provide good environmental protection and are regularly used where long service life, high performance fixed gaskets are needed. Because of the harder nature of the material, and because it needs a strong closing force through a relatively rigid cover which is screw fixed at regular intervals, they are not generally suitable for door seals or other applications where a regular opening and closing application applies. The possible exception to this is the sponge silicone variant.

They are usually supplied in gasket, strip or sheet form with a pressure sensitive adhesive backing which holds the gasket in the absence of a groove or channel. If a groove is available the gasket form is often a jointed 'o' ring without the adhesive backing.

Because oriented wire elastomers are wider than they are high, when specifying the thickness should be stated first as this will be the length of the embedded wires. Then, if the height needs to be greater than the width (i.e. to fit into a groove), there will be no doubt about your actual needs.

Particular care needs to be taken over the design of gaskets to ensure that fixing covers or doors do not distort during compression. It is often necessary to incorporate 'limit stops' into the gaskets to prevent over-compression. The material should be compressed by approximately 15% of its relaxed height. Please contact us for technical advice.

### Specifications:

Solid Silicone rubber	ZZ-R-765 2b 40	
Sponge Silicone rubber	AMS 3195	
Fluorosilicone rubber	Mil-R-25988 Gr 50	
Monel wire	BS3075 – NA13	(0.11mm diameter)
Aluminium 5056	AMS 4182	(0.13mm diameter)
Phosphor Bronze Cu Sn 6%		(0.114mm diameter)

### Performance: Typical dB

FREQUENCY	FIELD	ATTENUATION
10 KHz	H	55
100 KHz	H	83
1 MHz	H	>100
1 MHz	E	>120
10 MHz	E	>120
100 MHz	E	>120
400 MHz	E	>100
1 GHz	P	95
10 GHz	P	85

### Tolerances:

- Thickness up to 1.0mm +0.25mm –0.15mm
- Thickness over  $\pm 0.25$ mm
- Width tolerance on sheet material  $\pm 1.0$ mm

Our range of oriented wire in silicone rubbers combines excellent environmental protection with a high level of shielding effectiveness. These products incorporate a matrix of vertically oriented wires which pierce both flat faces of the elastomer and provide around 100 contact points per square centimetre. The materials, which include solid silicone (SP Shielding) and sponge silicone (SS Shielding) variants as well as fluorosilicone (SF Shielding), sponge silicone flame retardant (SG Shielding) and solid silicone flame retardant (SR Shielding) options, are produced in sheet or strip form and are usually factory fabricated and die-cut into gasket profiles to customers specifications.



### SERIES

SP=Solid Silicone

SS=Sponge Silicone

SR=Flame Retardant Solid Silicone

SG=Flame Retardant Sponge Silicone

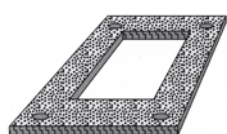
SF= Solid Fluorosilicone

SE=Wire Free Edge / Duo

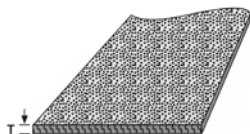


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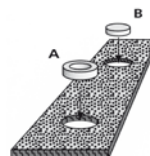
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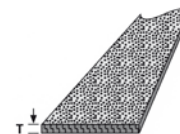
CUT GASKET FORMS



SHEET



LIMIT STOPS



STRIP

THICKNESS mm	WIDTH mm	PART NUMBER SUFFIX
0.8	76	-0008-0760
0.8	114	-0008-1140
0.8	152	-0008-1520
0.8	228	-0008-2280
1.1	76	-0011-0760
1.1	114	-0011-1140
1.1	152	-0011-1520
1.1	228	-0011-2280
1.3	76	-0013-0760
1.3	114	-0013-1140
1.3	152	-0013-1520
1.3	228	-0013-2280
1.6	76	-0016-0760
1.6	114	-0016-1140
1.6	152	-0016-1520
1.6	228	-0016-2280
2.4	76	-0024-0760
2.4	114	-0024-1140
2.4	152	-0024-1520
2.4	228	-0024-2280
3.2	76	-0032-0760
3.2	114	-0032-1140
3.2	152	-0032-1520
3.2	228	-0032-2280
4.8	76	-0048-0760
4.8	114	-0048-1140
4.8	152	-0048-1520
4.8	228	-0048-2280
6.4	76	-0064-0760
6.4	114	-0064-1140
6.4	152	-0064-1520
6.4	228	-0064-2280
8.0	76	-0080-0760
8.0	114	-0080-1140
8.0	152	-0080-1520
8.0	228	-0080-2280
9.5	76	-0095-0760
9.5	114	-0095-1140
9.5	152	-0095-1520
9.5	228	-0095-2280

THICKNESS mm	WIDTH mm	PART NUMBER SUFFIX
1.6	3.2	-0016-0032
1.6	4.8	-0016-0048
1.6	6.4	-0016-0064
1.6	9.5	-0016-0095
1.6	12.7	-0016-0127
1.6	15.9	-0016-0159
2.4	3.2	-0024-0032
2.4	4.8	-0024-0048
2.4	6.4	-0024-0064
2.4	9.5	-0024-0095
2.4	12.7	-0024-0127
2.4	15.9	-0024-0159
3.2	3.2	-0032-0032
3.2	4.8	-0032-0048
3.2	6.4	-0032-0064
3.2	9.5	-0032-0095
3.2	12.7	-0032-0127
3.2	15.9	-0032-0159
4.8	4.8	-0048-0048
4.8	6.4	-0048-0064
4.8	9.5	-0048-0095
4.8	12.7	-0048-0127
4.8	15.9	-0048-0159
6.4	6.6	-0064-0064
6.4	9.5	-0064-0095
6.4	12.7	-0064-0127
6.4	15.9	-0064-0159
6.4	19.1	-0064-0191
6.4	25.4	-0064-0254
8.0	8.0	-0080-0080
8.0	9.5	-0080-0095
8.0	12.7	-0080-0127
8.0	15.9	-0080-0159
8.0	19.1	-0080-0191
8.0	25.4	-0080-0254
12.7	12.7	-0127-0127
12.7	15.9	-0127-0159
12.7	19.1	-0127-0191
12.7	25.4	-0127-0254
15.9	15.9	-0159-0159

Other sizes can be supplied, please contact us for further information

### Please note:

- Strip material is available 900mm nominal lengths and can be factory bonded into longer sections.
- Sheet material is generally 152mm or 228mm nominal widths and can be edge bonded to greater widths.

### How to order:

Standard sizes can be specified from the table above.

Alternatively, specify:

*Series - Wire Type - Thickness - Width - Finish.*

#### Examples:

SP-M-0016-0127-S/A is Solid Silicone with Monel wire 1.6 mm thick x 12.7 mm wide with self-adhesive.

SS-A-0032-1520-N/A is Sponge Silicone with Aluminium wire 3.2 mm thick x 152 mm wide no adhesive.

For strip material not shown, or specific shapes, made up gaskets and for fixing hole positions, please send a drawing and we will allocate a part number with our quotation.

Note: Standard material length is 900mm



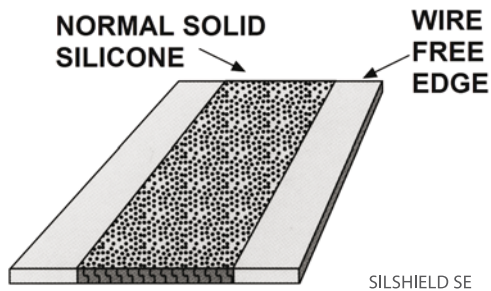
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# SILSHIELD | Oriented Wires in Silicone SE Shielding

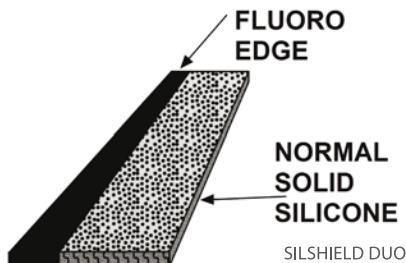
## SE Shielding:

Wire-free widths can be ordered where the material cross-section has wires along just one edge or along both edges with no wires in the centre. This provides a pressure seal and EMI shield in one component but reduces the compressive force needed to fit the gasket.



Dual material variants can also provide the advantages of a fluorosilicone gasket with the cost-effectiveness of plain silicone by bonding a wire-free fluoro-edge to a standard sheet or strip during the moulding process. Fabricated gaskets have a wire-free, contaminant resistant outer edge suitable for applications where loose wires could cause problems when gaskets are subjected to solvents or hydrocarbons and are liable to soften and swell.

Please contact the sales office for further details and to discuss your requirements.



## How to order:

SERIES	WIRE TYPE	THICKNESS/WIDTH	FINISH
SP=Solid Silicone	M=Monel	xxxx-xxxx	S/A= Self-adhesive
SS=Sponge Silicone	A=Aluminium		N/A=No adhesive
SR=Flame Retardant Solid Silicone	P=Phosphor Bronze		
SG=Flame Retardant Sponge Silicone			
SF= Solid Fluorosilicone			
SE=Wire Free Edge / Duo			

Note: Standard material length is 900mm

Standard sizes can be specified from the table on page 21. Alternatively, specify: *Series - Wire Type - Thickness - Width - Finish*

### Examples:

SP-M-0016-0127-S/A is Solid Silicone with Monel wire 1.6 mm thick x 12.7 mm wide with self-adhesive.

SS-A-0032-1520-N/A is Sponge Silicone with Aluminium wire 3.2 mm thick x 152 mm wide no adhesive.

For strip material not shown, or specific shapes, made up gaskets and for fixing hole positions, please send a drawing and we will allocate a part number with our quotation.



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