



## TECHNICAL DATA SHEET

### SHIELDING SOLUTIONS MULTISHIELD® ORIENTATED WIRE IN SILICONE ELASTOMER GASKET MATERIAL

#### Product overview

Multishield® is a range of EMI gasket materials comprising of an array of orientated wires bonded into a silicone elastomer sheet. The wires are aligned so that they provide a low impedance electrical path between the contact faces of the gasket. A high level of EMI shielding performance is reliably achieved by virtue of high number of wire contact points on each face. It will also provide a watertight (up to IP68) or pressure seal when incorporated into a suitable mechanical design.

#### Key features

- Silicone elastomer to ZZ-R-765 class 2B provides excellent sealing performance over a wide temperature range
- A high number of low impedance contacts ensures excellent EMI shielding over a wide frequency range
- Available with corrosion resistant monel wire or aluminium alloy wire for improved galvanic compatibility (reduces corrosion potential in wet / humid conditions with similar alloy enclosures)
- High physical strength reduces susceptibility to damage in installation/service
- Can be supplied with pressure sensitive adhesive to ease fitting and/or provide semi-permanent installation
- Ideally suited for applications that require combined EMI shielding and environmental protection in harsh conditions
- Can be fabricated into a wide range of configurations from connector gaskets to large enclosure seals



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Material Properties	
Elastomer type	Silicone ZZR-R-765 (A-A-59588)
Elastomer colour	Grey
Monel wire type (OWG-SM001)	0.114mm Ø / alloy type QQ-N-281-B
Aluminium wire type (OWG-SA001)	0.127mm Ø / alloy type 5056
Wire contact points (approx)	140 / cm <sup>2</sup>
Recommended compression range	5 – 25%
Service temperature range	-65°C to 200°C

It is recommended that in use some mechanical feature is incorporated into the enclosure design to prevent over-compression of the gasket. If this is not possible then gaskets can be supplied pre-fitted with compression control studs or collars.

Orientated wire gasket materials are also available based on two other elastomer types

- Fluorosilicone (MIL-R-25988 grade 50) for greatly improved resistance to fuels and oils e.g. kerosene, hydraulic fluid etc
- Silicone sponge elastomer (AMS 3195) for gaskets where a lower compression force is required



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### SHIELDING SOLUTIONS MULTISHIELD<sup>®</sup> ORIENTATED WIRE IN SILICONE ELASTOMER GASKET MATERIAL

#### Aluminium wire shielding performance (attenuation) to MIL-STD 285

- 10kHz H field	41dB
- 100kHz H field	64 dB
- 1MHz H field	83dB
- 1MHz E field	138dB
- 100MHz E field	132 dB
- 1GHz Plane wave	98 dB
- 10GHz Plane wave	48 dB

#### Monel wire shielding performance (attenuation) to MIL-STD 285

- 10kHz H field	55dB
- 100kHz H field	72 dB
- 1MHz H field	88dB
- 1MHz E field	138dB
- 100MHz E field	132 dB
- 1GHz Plane wave	108 dB
- 10GHz Plane wave	60 dB



Shielding Solutions Ltd  
Unit 17  
46 Springwood Drive  
Braintree  
Essex  
CM7 2YN

Tel: 01376 330033  
Fax:01376 339163

Web: [www.shielding-solutions.com](http://www.shielding-solutions.com)

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