



TECHNICAL DATA SHEET

SHIELDING SOLUTIONS OWG-SM001 / OWG-SA001 ORIENTATED WIRE IN SILICONE ELASTOMER GASKET MATERIAL

Product overview

OWG-SM001 and OWG-SA001 are 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 (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
- Low impedance contacts provides a high level of EMI shielding over a wide frequency range
- Available with high performance 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 water sealing 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 2B grade 40
Elastomer colour	Grey
Elastomer hardness	40 Shore A
Monel wire type (OWG-SM001)	1.14mm Ø / alloy type QQ-N-281-B
Aluminium wire type (OWG-SA001)	1.27mm Ø / alloy type 5056
Wire contact points (approx)	>100 / cm ²
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 (AMS 3195) for gaskets where lower compression force is required



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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



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