Product Specifications
Revised June 2015

Product Name:	Metal Detectable Silicone Rubber Sheeting
Unit Quantity:	Per metre 1.0 x 1.0 m
Unit Weight:	1.5mm Thick Sheeting 2.3Kg/m 3.0mm Thick Sheeting 4.6Kg/m 5.0mm Thick Sheeting 7.0Kg/m

Product Description:

Metal Detectable Silicone rubber sheeting is designed to be detected as a contaminant during the manufacturing process, addressing the concerns of rubber sealing particles from machinery contaminating production lines.

Our metal detectable silicone is tested to and complies with the requirements of the US Food and Drug Administration (FDA) regulation 21CFR177.2600 for rubber articles in repeated contact with food, and EC 1935/2004 & 2023/2006 on materials and articles intended to come into contact with food.

Metal detectable silicone is suitable for temperatures ranging from -60C to 230C, and is typically used for seals, gaskets, blades, fingers, curtains ETC. Subject to correct calibration and testing of metal detection systems, a 5mm section of our detectable silicone should be sufficient to trigger a detection and rejection process.

This detectable silicone is highly resistant to degradation from chemical and environmental factors, and is suitable for use in a range of demanding environments. It is also resistant to ozone, oxidation, UV light, corona discharges, cosmic radiation, ionising radiation and general weathering.

Product Availability:

Product Code	Dimensions (mm)	Max Roll Size
8990000-B	1.5x1000x1000	10 Metre Roll
8990003-B	3.0x1000x1000	10 Metre Roll
8990005-B	5.0x1000x1000	10 Metre Roll

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Colour Availability:	Blue

Product Advantages:
- ✔ Detectable by conventional metal detection systems
- ✔ Highly visible blue colour for easy visual identification
- ✔ FDA & EU Food Contact Approved Material
- ✔ High heat resistance
- ✔ Excellent overall weathering resistance

Product Material(s): Manufactured from food safe silicone rubber, with a non-hazardous metal detectable additive.

Material Properties:

Property	Typical Value	Test Method
Hardness	67 Shore A	ASTM D2240
Tensile Strength	9.0 MPa	BS ISO 37
Elongation to Failure	400%	BS ISO 37
Tear Strength Method C	13.5 N/mm	BS ISO 34-1
Compression Set type B (25% for 24hrs @ 150°C)	15%	BS 9-3 pt A6
Temperature Range	-60°C ~ 230°C	

Typical Applications

Seals, Joints, Gaskets, Strips, Fingers and Curtains used in hygiene sensitive food, drink and pharmaceutical processing applications.

Standards Compliance

FDA Section 21 : CFR 177.2600 - The silicone polymer, pigments and curative used in the manufacture of this sheeting are all suitable for food applications, and will meet the FDA Section 21 CFR 177.2600 covering "rubber articles intended for repeated use". A low percentage of non-hazardous metal detectable additive is then fully mixed/interlocked to this base polymer to make it detectable.

EC Regulation 1935/2004 & 2023/2006 - This sheeting also conforms to certain EU Regulations that allow them to comply with the applicable requirements of Article 3, and Articles 15 and 17 of the Regulation (EC) 1935/2004 and the GMP requirements of Regulation EC 2023/2006.

EU Directive 2002/72/EC - This directive is titled "relating to plastics materials and articles intended to come into contact with foodstuffs", and in this Directive, the silicone compound is not classed as a plastic. In the absence of an equivalent Directive for Silicones with or without additives, we declare that with regards to silicone sheeting with metal detectable additive, used in a repeat application, if there was a transfer of the metal detectable additive to the product, it would be so small as to be insignificant compared to that ingested naturally from other food sources.

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Detectability Information

Metal detectable silicone sheeting contains an evenly dispersed food safe ferromagnetic additive, designed to offer good levels of metal detection whilst not compromising the performance properties of the material. An 8 x 8 x 5 mm piece of metal detectable silicone gave the following test piece equivalent readings when tested through the geometric centre of an Anritsu KD8124AW coaxial metal detection system with a 95 x 450 mm aperture.

Reading Type	Test Piece Equivalent	Recommended Detector Sensitivity
FERROUS	4.0 mm	3.5 mm
NON FERROUS	3.0 mm	2.5 mm
STAINLESS STEEL	3.5 mm	3.0 mm

The above tests were repeated three times in order to gain accurate readings, please bear in mind however that the above guidance does not take into account any product effect. The following factors can have considerable effects on detectability:

- Aperture dimensions
- Contaminant orientation
- Product Type (Wet / Dry / Frozen / Physical State)

Niebling recommend that all our products be thoroughly tested on your metal detection systems by a trained and certified professional. It may the case that your equipment may need to be recalibrated in order to reliably detect this product. Such a professional should be available by contacting the manufacturer of your metal detection system.

DISCLAIMER