Conductive Silicone Rubber Nolato 8817

1. Characteristics

Nolato 8817 is a conductive silicone rubber.

- A two-component thermal cure silicone filled with conductive Ni/C particles.
- It is used to produce integrated EMI shielding gaskets by dispensing and Trishield forming directly on telecom or other industrial components.
- The patented Trishield gasket* offers a triangularly shaped gasket with improved shielding properties.
- For a more narrow gasket with less material consumption and less compression force it is recommended to dispense with a triangular shaped needle before using the forming unit.
- Low viscosity offers short cycle times in any dispensing machine.
- Excellent shielding combined with good mechanical properties.
- The aluminium compatible conductive filler offers enhanced galvanic corrosion resistance and stability in severe environments.
- Operating temperatures between -55°C and +125°C.
- Good adhesion to most metal and metallised surfaces.
- Typical gasket height from 1,0 to 2,0 mm.
- Recommended compression between 10 and 50%.

2. Applications

- Nolato 8817 is particularly suitable for low cost production of gaskets on large series of aluminium castings when there is a demand of excellent shielding and a softer gasket
- Typical applications include EMI shielding gaskets in mobile phone base stations.

3. Processing

Nolato 8817 is a two-component compound of pasty consistency. The component A and B are delivered in 1000 ml cartridges with a shelf life of at least 6 month if stored at –18°C. The components are mixed in a ratio of 1:1 by weight prior to use. The mixed material is dispensed as a bead directly on the component with a standard dispensing machine. The dispensed gasket is given a narrow shape in the Trishield forming unit. Curing is done in a hot air oven at 150°C for 30 minutes. For detailed information please refer to the “Mixing and handling instruction”.

4. Product data

	Test procedure	Unit	8817
Base material			Silicone rubber
Conductive filler			Nickel/Graphite
Density, uncured		g/cm^3	1,6
Viscosity A comp. at shear rate10 $^{s-1}$	Nolato FOU-04/5	Pas	65
Viscosity B comp. at shear rate10 $^{s-1}$	Nolato FOU-04/5	Pas	65
Viscosity mixed. at shear rate10 $^{s-1}$	Nolato FOU-04/5	Pas	65
Electrical resistance	Nolato FOU-04/6	mOhm	200
Adhesion	Nolato FOU-04/7		Cohesive failure

* Production of Trishield gaskets requires a license from Nolato. The licence includes rights to produce and market Trishield gaskets and technical support and the special forming unit.

5. Mechanical properties

	Test procedure	Unit	8817
Density, cured	ISO 2781	g/cm^3	1,9
Hardness	ISO 7619	Shore A	63
Tensile strength	ISO 37	MPa	2,6[1]
Elongation at break	ISO 37	%	260
Tear strength	ISO 34-1C	N/mm	16[2]
Compression set, 72 hours/100°C	ISO 815	%	30
Flammability	UL 94		V0[3]

[1] 1 MPa = 145 psi [2] 1 N/mm = 5,71 lb/in

[3] Tested on a 0,8 mm thick gasket adhered to an aluminium substrate with a thickness of 2 mm.

6. Electrical and shielding properties

	Test procedure	Unit	8817
Volume resistivity, as moulded	MIL-DTL-83528C	mOhmcm	12
Volume resistivity, heat aged 48h/156°C	MIL-DTL-83528C	mOhmcm	20
Volume resistivity, heat aged 1000h/125°C	MIL-DTL-83528C	mOhmcm	34
Average shielding effect, 0,3 – 20 GHz Gasket on aluminium, fresh	Nolato cavity to cavity test method	dB	110

7. RoHS information

Nolato 8817 fulfils the requirements set by the EU Directive 2002/95/EC (RoHS).

8. Safety instructions

Nolato 8817 is according to EU directive classified as harmful, class Xn, due to the content of nickel. Nickel may cause sensitisation by skin contact. It is advisory to never touch the gasket without gloves. A material safety data sheet can be sent on request.

9. Warranty

The data given in this product information should be taken only as a guide and not a specification. Data are based on statistical evaluation on data measured on a number of batches at Nolato.

The recommendations and data given are based on our experience to date, however, no liability can be assumed in connection with their usage and processing.