

Preliminary Data Sheet Trishield Conductive Silicone Adhesive Nolato 8140

Nolato 8140 is a conductive silicone rubber used to produce integrated EMI shielding gaskets by dispensing.

Nolato 8140 key properties:

- Typical gasket height from 0,5 mm to 3 mm.
- Recommended compression between 10 and 50%.
- Operating temperatures between -40°C and +125°C.
- Adhesion to most metal and metallised surfaces and may be used as electrically conductive adhesive.
- Medium viscosity offers good aspect ratio in dispensing and after curing.
- RTV-1 moisture cure silicone.

Applications

Nolato 8140 is suitable for production of gaskets where heat cure is not possible. Typical applications include dispensed EMI shielding gaskets in automotive applications.

Typical Product Data

	Test procedure	Unit	8140
Base material			Silicone rubber
Conductive filler			Ni/C
Density, uncured		g/cm ³	2.1
Viscosity mixed. at shear rate 10 s ⁻¹	Nolato FOU-04/8	Pas	100
Electrical resistance	Nolato FOU-04/6	mOhm	200
Adhesion*	Nolato FOU-04/10	N/cm	10
Outgassing TML ¹⁾	ASTM E595	%	0.43
Outgassing CVCM ¹⁾	ASTM E595	%	0.12

1) Material cured 24h in 40C/50%RH before test to ensure full cure. *Cure speed and adhesion is dependent on surface properties and curing condition.

Curing

	Test procedure	Unit	8140
Skin over		min	15
Tack free		min	90
Full cure*		h	24-72

*Curing time is dependent on thickness of material, temperature and relative humidity

Mechanical Properties

	Test procedure	Unit	8140
Density, cured	ISO 12154	g/cm ³	2.3
Hardness	ISO 48-4	Shore A	75
Tensile strength ²⁾	ISO 37	MPa	2.5
Elongation at break	ISO 37	%	66
Compression set, 72 hours/100°C	ISO 815	%	76

2) MPa = 145 psi

Electrical and Shielding Properties

	Test procedure	Unit	8140
Volume resistivity, as moulded	MIL-DTL-83528C	mOhmcm	10
Volume resistivity, aged 48h/156°C	MIL-DTL-83528C	mOhmcm	20
Average shielding effect, 0,3-20 GHz	Nolato cavity to cavity test method	dB	130

Processing

Nolato 8140 is a one-component compound of pasty consistency. The material is dispensed as a bead directly on the component with a standard dispensing machine. The dispensed gasket could be given a narrow shape in the Trishield 2.0 forming unit*. Material cures in an environment of 30-80% relative humidity. Moderate heat of up to 60°C may be used to accelerate curing. Nolato 8140 have a shelf life of at least 6 months when stored in unopened package in freezer -18°C.

RoHS Information

Nolato 8140 fulfils the requirements set by the EU RoHS Directive 2011/65/EU and its amendment 2015/863/EU.

Safety Instructions

Nolato 8140 is according to EU directive 1272/2008 (CLP) classified as hazardous, 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.

Warranty

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. The typical property data as shown above should not be used as a specification.

* 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.