

# Fibre-insulated wires

## CuNi 2Silix® VSI round

- **Nickel plated round copper OF1 wire insulated with glass yarn**
- **Winding wire with excellent thermal and chemical resistance**
- **Temperature Index 200**

### General description

SILIX®-covered nickel-plated bare round wires are insulated with a double covering of glass fibres (SILIX®) and impregnated with silicone (V Si) based varnish.

Users should consider that a silicone impregnation gives a lower level of adhesion than epoxy or polyetherimide impregnations (see IEC 60317-50 standards).

### Application

- Motors and magnet coils subjected to constantly high thermal and mechanical stress in Nuclear environment.
- Thermo-elements.

### Material

**Conductor:** CU-OGF1 (CW007A), nickel plated 5 my thickness.

**Insulation:** 2 layers of glass-fibres, impregnated with Silicon coating varnish.

**Product range:** 0.6 to 6 mm

The standard diameters of the conductors (nominal diameter) comply with standard IEC 60317-0-1.

### Insulation increase:

Nominal conductor diameter	Type	Minimum insulation increase	Maximum external dimension
0.65 mm	FIN	0.13 mm	0.85 mm
1.15 mm	FIN	0.13 mm	1.36 mm
1.70 mm	RENF	0.21 mm	1.95 mm

### Elongation at break:

Nominal conductor diameter	Minimum elongation at break %
0.65 mm	24 %
1.15 mm	26 %
1.70 mm	28 %

### Standards

SILIX®-covered nickel-plated bare round copper wires meet the requirements of IEC Publications 60317-0-6 and 60317-50 (TI 200).

The test methods are based on IEC Publication 60851:

- 60851-1 General
- 60851-2 Definition of dimensions
- 60851-3 Mechanical properties
- 60851-4 Chemical properties
- 60851-5 Electrical properties
- 60851-6 Thermal properties

### Advantages

- Excellent resistance to high temperatures in continuous Mode.
- Good resistance to mineral oil and corrosive vapors.
- Good resistance to abrasion and scraping.

### Order Data

Quantity, Designation, Supply Form e.g.:

The designation shall comprise:

Nominal dimension in mm:	0.65 mm
Conductor material:	CuNi OF1
Designation of the insulation:	2 Silix VSI FIN
Reel type:	e.g. DIN 355

Example of complete order:

50 Kg CuNi2 Silix VSi FIN Ø 0.65 mm D355

<b>Mechanical properties</b>			<b>Standard</b>
Spring back angel for diameter > 1.6 mm	°	<= 5	IEC 60851-3 Test 7
Flexibility Mandrel winding	10 x d	No cracks	IEC 60851-3 Test 8
Adherence of elongation	10 %	No loss of adhesion	IEC 60851-3 Test 8
<b>Electrical properties</b>			
Breakdown voltage	V / mm	2200	IEC 60851-5 Test 13
<b>Thermal properties</b>			
Heat shock 30 min/200 C	12 x d	No cracks	IEC 60851-6 Test 9

**Appearance**

Slight color variations are raw material or process-related and have no influence on the technical properties of the wire.

The product properties set forth in this data sheet are based on the results of testing of typical material produced by the company Delle Fil SAS. Some variation in product properties is typical. Comments or suggestions relating to any subject other than product properties are offered only to call the end-user's or other person's attention to considerations which may be relevant in the independent determination of the use and/or manner of use of product. Delle Fil SAS does not claim or warrant that the use of its product will have the results described in this data sheet or that the information provided is complete, accurate or useful. The user should test the product to determine its properties and its suitability for the intended use. Delle Fil SAS expressly disclaims any liability for any damage, harm, injury, cost or expense to any person resulting directly or indirectly from that person's reliance on any information contained in this data sheet. Nothing contained in this data sheet constitutes representation or warranty as to any matter whatsoever. Delle Fil SAS makes no warranties whatsoever in this data sheet, expressed or implied, including any implied warranty or fitness for a particular use or purpose. Delle Fil SAS shall in no event be liable for incidental, exemplary, punitive or consequential damages.