

# Silver Tin Oxide NCF

## A New Generation of Contact Materials

### Scope

This information refers to Ag/SnO<sub>2</sub> NCF wires, profiles and contact tips manufactured by means of wet chemical precipitation. Profiles and tips are available with a backing layer of silver and optionally with an additional layer of a brazing alloy.

### Key Features

- high erosion and welding resistance at inductive loads
- high formability especially for demanding riveting applications

### Applications

- AC relays (inductive loads)
- automotive relays (all loads, special advantage for motor loads)

### Composition

Material	Ag/SnO <sub>2</sub> NCF1	Ag/SnO <sub>2</sub> NCF2	Ag/SnO <sub>2</sub> NCF3
<b>Standard content of oxides</b> [wt.-%]	8, 10, 12	8, 10, 12	8, 10, 12
<b>Additive content</b>	high In <sub>2</sub> O <sub>3</sub>	low In <sub>2</sub> O <sub>3</sub>	high In <sub>2</sub> O <sub>3</sub>
<b>SnO<sub>2</sub> particles size</b>	superfine	superfine	fine

### Microstructure

The oxide particles are homogeneously distributed in the silver matrix.



longitudinal section (parallel to the direction of extrusion)  
Ag/SnO<sub>2</sub> 88/12 NCF1

cross section

### Physical Properties

Ag/SnO <sub>2</sub>	88/12 NCF1	88/12 NCF2	88/12 NCF3
<b>Density</b> [g/cm <sup>3</sup> ]	9,9	9,9	9,9
<b>Electrical conductivity</b> [m/Ω/mm <sup>2</sup> ]	45	45	46
<b>Tensile strength</b> (soft) [MPa]	320	315	270
<b>Elongation to fracture</b> [%]	24	25	30

Ag/SnO<sub>2</sub> NCF