

AgW

# Silver Tungsten

**SCOPE:** This information refers to silver based contact material with tungsten as the second main component manufactured by:

- » infiltration of molten silver into a porous tungsten preform
- » press-sinter-repress of a silver tungsten powder blend

Tips are available with silver excess (infiltration) or backing layer, e.g. Ag, AgNi (press-sinter-repress) and optionally with an additional layer of a brazing alloy.

## Designation of standard compositions

The tungsten content is designated in weight percent. It can be adjusted between 40 to 80 %.

## Characteristics

- » lowest arc erosion of all contact materials
- » high welding resistance
- » low electrical conductivity
- » high contact resistance by formation of tungsten oxides as well as silvertungstates
- » poor arc migration properties
- » very hard

## Applications

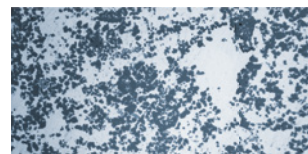
- » circuit breakers (ACB, MCCB)
- » earth leakage breakers (RCCB)
- » miniature circuit breakers (MCB)
- » arc fault and ground fault circuit interrupters (AFCI, GFCI)

## Microstructure

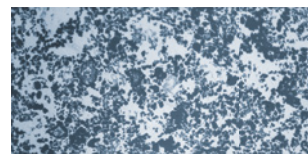
An higher amount of tungsten leads to a more regular distribution of the components.

## Physical Properties

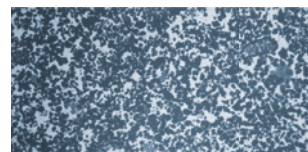
MATERIAL	DENSITY [g/cm <sup>3</sup> ]	ELECTRICAL CONDUCTIVITY [m/(Ω·mm <sup>2</sup> )]	HARDNESS [HRB]
AgW40	12.5	41	50
AgW50	13.2	38	80
AgW60	14.0	34	85
AgW65	14.4	32	90
AgW70	14.9	31	90
AgW80	16.0	23	100



AgW50



AgW60



AgW70

