

Scope

This information refers to silver graphite profiles and contact tips manufactured by blending of silver and graphite powder, compacting, sintering, extruding and rolling. The deformation results in the alignment of graphite particles along the direction of the extrusion and rolling. A brazeable silver side is produced by decarburization. Profiles clad with a brazing alloy and presoldered contact tips are available.

Designation of standard compositions

Profiles show a parallel orientation of the graphite to the contact surface and can be produced with 2 and 3 weight percent graphite.

Contact tips with 2, 3, 4 and 5 % are available either with a parallel orientation (AgC II) or with a perpendicular orientation of the graphite to the contact surface (AgC I).

Key Features

- best anti-welding properties of all contact materials on make with C-contents of 3 % and higher (lowest with graphite particle alignment parallel to contact side)
- best protection against contact welding of closed contacts under short circuit currents
- low erosion on make
- low contact resistance

- high erosion on break (reduced with perpendicular graphite particle alignment to contact surface)
- inferior arc migration properties; compensated by asymmetrical material combinations:
 - Cu counter-contact with low currents
 - AgNi counter-contact with high currents

Applications

- circuit breakers
- earth leakage breakers
- miniature circuit breakers

Microstructure

The directional deformation of the material during the manufacturing process causes a strong displacement of the graphite particles into graphite layers.



AgC3
longitudinal section
(parallel to the direction
of extrusion)

AgC3
cross section

AgC5
cross section

Physical Properties

Designation	Density [g/cm ³]	Hardness [HV1]	Electrical Conductivity [m/Ω/mm ²]
AgC2	9,4	35	47
AgC3	9,1	35	47
AgC4	8,8	35	44
AgC5	8,6	35	43,5

