TECHNICAL SHEET
Ag18CuP

STELLA WELDING ALLOYS

Product name
Ag18CuP

Class of product
Silver-Copper-Phosphorous brazing alloy

Corresponding standards

ISO 17672	CuP 286
EN1044	CP 101
AWS A5.8-04	-----
DIN 8513	-----

Nominal composition (weight %)

Ag:	18
Cu:	Bal.
P:	7

Physical and technical properties

Melting range (Solidus – Liquidus):	645 - 645 °C (eutectic)
Minimum brazing temperature (flow point):	650 °C
Density:	8,4 g/cm^3
Tensile Strength (filler metal):	50 kg/mm^2
Electrical conductivity:	6 % IACS
Recommended joint gap:	0,05 – 0,2 mm
Continuous service joint operating temp.:	-55 / + 150 °C
Max. short service joint operating temp.:	200 °C

Range of application

Ag18CuP is a silver-copper-phosphorous brazing alloy, with very low melting point and excellent flow characteristics.

It can be used to join copper to copper or copper based base materials (e.g. bronzes / brasses).

The phosphorus contained in the alloy acts as a fluxing agent, so that it is not necessary to use an additional flux when brazing copper to copper; however when joining copper based materials (e.g. bronzes / brasses) a proper flux should be used.

Ag18CuP should not be used on ferrous or nickel alloys, or alloys containing more than 10% of nickel, due to the formation of brittle intermetallic compounds which will cause failure of the joint.

Corrosion resistance of Ag18CuP is generally satisfactory, except when the joint is contact with sulphurous atmospheres (especially at high temperatures); the alloy should therefore not be used to join parts that could come into contact with sulphur containing medias.

Due to its single point melting range, which prevents liquation problems, Ag18CuP is particularly recommended for furnace brazing.

Tensile strength of joints brazed with Ag18CuP will generally exceed base metals strength.
Joint strength is however a function of various factors, such as: type of base metals to be joined, type of joint, joint clearance, brazing procedure, etc.

Typical applications are in the refrigeration, electric and electromechanic industry.

Characteristics Make-up

Rods:	Ø 1,5 ⇨ 4,0 mm	Length: 500 / 1.000 mm
Wires:	Ø 1,0 ⇨ 3,0 mm	Spooled and coiled

Rings
Preforms from Wire
Pastes & Powders

Other dimensions are available upon request.

STELLA s.r.l.
Via Marconi 26 – 21041 ALBIZZATE (VA) – ITALY
Tel. +39-0331-985787 – Fax +39-0331-985803
info@stella-welding.com - www.stella-welding.com

NOTE:
Information contained in this data sheet are based on the knowledge available to us at the date of last document revision and are believed to be accurate. Anyway, no data contained in this data sheet may be regarded as an assurance of any property of the product. We do not assume any responsibility for results obtained or damages occurred from the use of the information contained in this data sheet. We do not assume any responsibility for any un-proper use of the product. Users should verify the suitability and completeness of information with regard to specific use the product. As end use of product is not under our direct control, it is the user's responsibility to fully comply with applicable laws and regulations in safety and hygiene.

STELLA s.r.l.
Via Marconi 26 – 21041 ALBIZZATE (VA) – ITALY
Tel. +39-0331-985787 – Fax +39-0331-985803
info@stella-welding.com - www.stella-welding.com