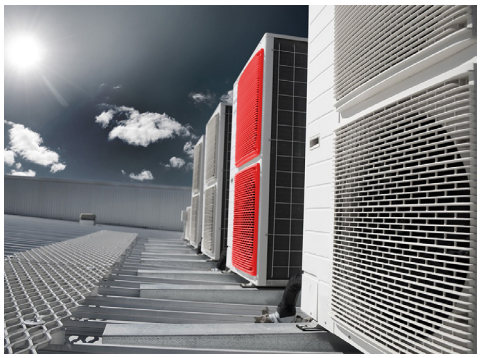
FONTARGEN A3005

COPPER PHOSPHORUS ALLOY

Copper-phosphorus-silver brazing alloy

A3005 is a silver containing alloy with excellent flow characteristics and suitable for gap brazing of copper and copper alloys. The homogeneous dispersion of the phosphorus increases the ductility. A3005 suits to brazing joints operated at temperatures between -60°C/-76°F and +150°C/+302°F. A3005 offers a good corrosion resistance except when in contact with sulfurous environment, especially under high temperatures. Due to the formation of brittle intermetallic compounds which can cause failures of the joint, phosphorus containing filler metals should not be used on Fe- and Ni- containing base alloys.

Product features	Product benefits	User benefits
» **Low phosphorus content**	» Good ductility » Low filler metal working temperature	» Suitable for gap bridging and modelling works » Low brazing temperature process
» **Silver content**	» Lowers down working temperature of the filler metal » Allows dropping down phosphorus content	» Better mechanical characteristics of the joint
» **Homogeneous dispersion of the phosphorus**	» Reproductive flow characteristics » No phosphorus nest » Preforms manufacturing for half and/or full automated processes possible	» Good control of the wetting process » Easy bending of wires and rods if necessary
» **Auto fluxing on Cu/Cu applications**	» Due to the presence of phosphorus in the alloy, there is no need of flux when brazing copper to copper. However, when joining other base materials (e.g. bronzes / brasses), using an appropriated flux is necessary	» No post braze cleaning when brazing copper to copper
» **Operating temperatures**	» Determined by notched flexural impact test acc. to DIN EN 10045	» Can be used for joints/parts operated at temperatures between -60°C/-76°F and +150°C/+302°F



Typical applications

- Heat exchangers / Evaporators / Coils
- Domestic & Industrial Refrigerators
- Air Conditioners
- Water heaters / Boilers / Plumbing industry
- Home appliance

Mainly used for

- Parts subject to diverse dynamics forces: (vibrations, dilatation, etc...)
- Modelling works

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Classification		
AWS A5.8	**EN ISO 17672**	**DIN 8513**
BCuP-3	CuP281	L-Ag5P

Typical chemical composition, wt. %			
Cu	**Ag**	**P**	**Others**
Bal.	5.0	6.0	0.15

Mechanical properties							
Working Temperature	**Melting Range**	**Specific weight**	**Elongation**	**Operating service tempera-tures of the joint**	**Max. service tempera-tures of the joint**	**Electrical conductiv-ity**	**Recommended joint gap**
710°C/1310°F	645°C/815°C 1193°F/1499°F	8,2g/cm^3	8%	-60°C/+150°C -76°F/+302°F	200°C/392°F	5 Sm/mm^2	0.05mm/.002” 0.2mm/.008“

Base materials
Brass, Gunmetal, Bronze, Copper

Heat sources
Open flame, Induction, Resistance, Furnace

Flux
FH 10 acc. to EN 1045 => F300 Series of Fontargen

Art. Nr.	Form	Dimensions (mm/inch)	Packaging
81059	Flat rods (with embossing)	1.27 x 3.17 x 508 mm .050 x 1/8 x 20 inch	Plastic tubes