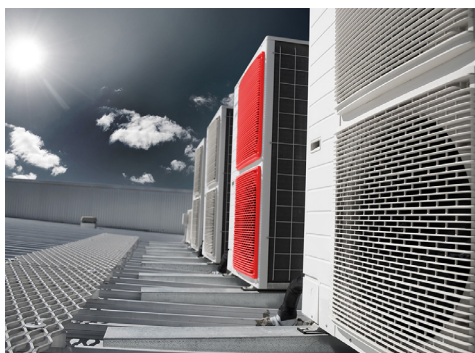


## FONTARGEN A3002 COPPER PHOSPHORUS ALLOY

### Copper-phosphorus-silver brazing alloy

A3002 is a low silver content alloy characterized by good flow behavior and gap filling properties. The homogeneous dispersion of the phosphorus increases the ductility of the wire that aims to avoid breakdowns during feeding, bending and forming process. A3002 suits to brazing joints operated at temperatures between  $-60^{\circ}\text{C}/-76^{\circ}\text{F}$  and  $+150^{\circ}\text{C}/+302^{\circ}\text{F}$ . A3002 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
» <b>High phosphorus content</b>	<ul style="list-style-type: none"> <li>» High capillary activity</li> <li>» Low filler metal working temperature</li> </ul>	<ul style="list-style-type: none"> <li>» Very good and fast penetration into narrow gaps and tight joints</li> <li>» Fast brazing process</li> <li>» Low brazing temperature process</li> </ul>
» <b>Silver content</b>	<ul style="list-style-type: none"> <li>» Lowers down working temperature of the filler metal</li> <li>» Allows dropping down phosphorus content</li> </ul>	<ul style="list-style-type: none"> <li>» Good mechanical characteristics of the joint</li> </ul>
» <b>Homogeneous dispersion of the phosphorus</b>	<ul style="list-style-type: none"> <li>» Reproductive flow characteristics</li> <li>» No phosphorus nest</li> <li>» Preforms manufacturing for half and/or full automated processes possible</li> </ul>	<ul style="list-style-type: none"> <li>» Good control of the wetting process</li> <li>» Easy bending of wires and rods if necessary</li> </ul>
» <b>Auto fluxing on Cu/Cu applications</b>	<ul style="list-style-type: none"> <li>» 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</li> </ul>	<ul style="list-style-type: none"> <li>» No post braze cleaning when brazing copper to copper</li> </ul>
» <b>Operating temperatures</b>	<ul style="list-style-type: none"> <li>» Determined by notched flexural impact test acc. to DIN EN 10045</li> </ul>	<ul style="list-style-type: none"> <li>» Can be used for joints/parts operated at temperatures between <math>-60^{\circ}\text{C}/-76^{\circ}\text{F}</math> and <math>+150^{\circ}\text{C}/+302^{\circ}\text{F}</math></li> </ul>



### Typical applications

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

### Mainly used for

- » Parts subject to diverse dynamics forces: (vibrations, dilatation, etc...)
- » Return bends (U-Bends) on coils

# FONTARGEN A3002

Classification		
AWS A5.8	EN ISO 17672	DIN 8513
BCuP-6	CuP280	L-Ag2P

Typical chemical composition, wt. %			
Cu	Ag	P	Others
Bal.	2.0	7.0	0.15

Mechanical properties							
Working Temperature	Melting Range	Specific weight	Elongation	Operating service temperatures of the joint	Max. service temperatures of the joint	Electrical conductivity	Recommended joint gap
740°C/ 1364°F	645°C/ 790°C 1193°F/ 1454°F	8,1g/cm <sup>3</sup>	5%	-60°C/ +150°C -76°F/ +302°F	200°C/ 392°F	4Sm/mm <sup>2</sup>	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
81058	Flat rods (with embossing)	1.27 x 3.17 x 508 mm .050 x 1/8 x 20 inch	Plastic tubes

