

Phos-Copper 2

◆ INTRODUCTION

Aufhauser PhosCopper 2 is primarily used for the joining of copper-to-copper on vibration free joints. It is very effective for joining tight fitting copper pipe and tubing. PhosCopper 2 should not be used on ferrous metals or copper alloys containing more than 10% nickel because of phosphorus embrittlement due to reactions with iron or nickel. PhosCopper 2 has the ability to fill wide joint clearances at the lower end of its brazing range. At the high end of the brazing range, it is more fluid. Best results are obtained with clearances of .001-.003". Melting of PhosCopper 2 is virtually complete at 1300 °F (704 °C). Best results are obtained when brazing slightly above this temperature.

◆ APPLICATIONS

- Brazing copper and copper alloys, as well as brass, bronze, silver, tungsten and molybdenum.

◆ CHEMICAL COMPOSITION

Silver	Phosphorus	Copper	Total other
2.0	7.0	Balance	.15

◆ PHYSICAL and MECHANICAL PROPERTIES

Liquidus:	1450°F (788°C)
Solidus:	1190°F (643°C)
Brazing Range:	1300-1450°F (643-788°C)
Specific Gravity:	8.00
Density:	0.289 lb/Cu.In
Electrical Conductivity:	5.5% IACS
Electrical Resistivity:	31.5 Michroh-m-cm
Color:	Light Copper



◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.8 BCuP-6
- ASME BCuP-6
- ISO 3677: B Cu 92P Ag 645-800
- BS 1845 CP 2
- DIN 8513 LAg 2P
- NFA 81-362, 06 B1

◆ STANDARD SIZES AND DIAMETERS

- Diameters: 1/16", 3/32", 1/8", 3/16", 1/4"
- Sizes: 18", 20", 36" cut lengths
- Forms: Flat, Square, Round

◆ PROPERTIES OF BRAZED JOINTS

Generally, the joint strength produced by PhosCopper 2 will surpass the strengths of the base metals. Strength is a function of the base metals being joined, type of joint, design of joint, joint clearances and brazing procedures. The recommended maximum operating temperatures for PhosCopper 2 are 300 °F (continuous service) and 400 °F (short time service). Corrosion resistance is satisfactory except when the joint is in contact with sulfurous atmosphere (especially at elevated temperatures).

◆ ADDITIONAL INFORMATION

The phosphorus content of PhosCopper 2 acts as a fluxing agent and no flux is necessary when brazing copper joints. However, when used with a copper alloy or one of the other brazeable metals, Aufhauser White SilverFlux must be used to promote wetting, bonding, and flow throughout the joint. The flow point of PhosCopper 2 is 1300 °F (704 °C).