

PhosCopper 15

◆ INTRODUCTION

PhosCopper 15 is used for the brazing of copper and copper alloys, brass and bronze. It can also be used on silver, tungsten and molybdenum. It is very effective for joining pipe and tubing and is widely used for electrical work. PhosCopper 15 should not be used on ferrous metals or copper alloys containing more than 10% nickel because of phosphorous embrittlement due to reactions with iron or nickel. Of the PhosCopper brazing filler metals, PhosCopper 15 has more ductility and better electrical conductivity than the lower silver content PhosCoppers. It has good flow and wetting properties on copper, brass and bronze. PhosCopper 15 has the most "sluggish" flow characteristics in the PhosCopper family. This enables it to fill gaps better. The recommended joint clearances are between 0.001 and 0.005". Melting of PhosCopper 15 is virtually complete at 1300 °F (704 °C) even though the liquidus is not yet reached. 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

<u>Silver</u>	<u>Phosphorus</u>	<u>Copper</u>	<u>Total other</u>
15.0	5.0	Balance	.15



◆ PHYSICAL and MECHANICAL PROPERTIES

Solidus:	1190 °F
Liquidus:	1475 °F
Brazing Range:	1300-1500 °F
Specific Gravity:	8.44
Density:	0.305 lb/Cu.In
Electrical Conductivity:	9.9 %IACS
Electrical Resistivity:	17.4 μohm-cm
Color:	Light Copper

◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.8, Class BCuP-5
- ASME, Class BCuP-5
- QQ-B-650, Type BCuP-5
- QQ-B-654, Type BCuP-5
- MIL-B-15395, Grade III
- ISO 3677: B Cu 80 Ag P 645-770
- DIN 8513, LAg 15P
- NFA 81-362, 05 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 15 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 15 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 at the core of this wire 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 SilverFlux must be used to promote wetting, bonding, and flow throughout the joint. The flux used must be active within the required temperature range of PhosCopper 15 and active throughout the heating cycle. The flow point of PhosCopper 15 is 1300 °F.