

Brazelt-15 (BCuP-5)

Nominal Composition:	
Silver	15.00 ± 0.50%
Phosphorous	5.00 ± 0.20%
Copper	Balance
Total other Elements	0.15 % Max
Physical Constants:	
Solidus	1190°F (643°C)
Liquidus	1475°F (802°C)
Brazing Range	1300-1500°F (704-816°C)
Specific Gravity	8.44
Density (lb/cu in)	.305
Electrical Conductivity (% IACS)	9.9
Electrical Resistivity	17.4
Color	Light Copper

DESCRIPTION:

Brazelt-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. Brazelt-15 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. Of the phos-copper filler metals, Brazelt-15 has more ductility and better electrical conductivity than the lower silver content phos-coppers and the most "sluggish" flow characteristics, enabling it to fill gaps effectively. The recommended joint clearances are between .001" and .005". Melting 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.

PROPERTIES OF BRAZED JOINTS:

Generally, the joint strength using Brazelt-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 Brazelt-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).

APPLICATIONS:

The phosphorus content of Brazelt-15 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, a brazing flux must be used to promote wetting, bonding, and flow throughout the joint. The flow point of Brazelt-15 is 1300°F (704°C).

SPECIFICATIONS:

AWS A5-8	BCuP-5
ASME	BCuP-5
QQ-B-650	BCuP-5
Mil-B-15395	Grade III
QQ-B-654	BCuP-5

SAFETY INFORMATION:

The operation and maintenance of brazing equipment or facility should conform to the provisions of American National Standard (ANSI) Z49.1, "Safety in Welding and Cutting." For more complete information refer to the Material Safety Data Sheet for Brazelt-15.

AVAILABLE FORMS:

Standard forms of Brazelt-15 are wire, strip and preforms.