

Brazelt-5 (BCuP-3)

Nominal Composition:	
Silver	5.00 ± 0.20%
Phosphorous	6.00 ± 0.20%
Copper	Balance
Total other Elements	0.15 % Max
Physical Constants:	
Solidus	1190°F (643°C)
Liquidus	1495°F (813°C)
Brazing Range	1325-1500°F (718-816°C)
Specific Gravity	8.13
Density (lb/cu in)	.294
Electrical Conductivity (% IACS)	9.6
Electrical Resistivity	18.1
Color	Light Copper

DESCRIPTION:

Brazelt-5 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 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. Brazelt-5 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. Its melting characteristics are such that on the low end of its brazing temperature range it has "sluggish" flow characteristics which enable it to fill gaps better, making it ideal for loose-fitting joints. On the other hand, when brazing at the high end of its brazing temperature range, it is very fluid, making it ideal for tight-fitting joints requiring deep penetration.

PROPERTIES OF BRAZED JOINTS:

Generally, the joint strength using Brazelt-5 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-5 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-5 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-5 is 1325°F (718°C).

SPECIFICATIONS:

AWS A5-8	BCuP-3
ASME	BCuP-3
Q9-B-650	BCuP-3

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-5.

AVAILABLE FORMS:

Standard forms of Brazelt-5 are wire and preforms.