

Bellman-Melcor LLC
 7575 West 183rd Street
 Tinley Park, Illinois 60477
Phone: 1-800-367-6024 • **Fax:** 1.888.BRAZE-IT-272.9348
Email: sales@bellmanmelcor.com • **Website:** www.bellmanmelcor.com



Item # Brazeit-2, Copper Phosphorous Alloys

Combination of low silver with high phosphorous creates very good fluidity in this phos-copper brazing alloy. While not quite as liquid as Brazeit #0, tight fit-up is recommended.

Brazeit 2 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. Brazeit 2 should not be used when brazing ferrous metals or copper alloys containing more than 10% nickel because of phosphorus embrittlement due to reactions with iron or nickel. Brazeit 2 is extremely fluid at brazing temperatures and will penetrate a joint with very little clearance. Best results are obtained with clearances of 0.001" - 0.003". Melting of Brazeit 2 is virtually complete at 1300°F (704°C). Best results are obtained when brazing slightly above this temperature.

[Nominal Composition](#) · [Specifications](#) · [Physical Constants](#) · [Properties of Brazed Joints](#) · [Applications](#) · [Safety Information](#) · [Available Forms](#)

Nominal Composition

Silver (Ag)	2.00 ± 0.20%
Copper (Cu)	91 (Balance)
Phosphorus (P)	7.00 ± 0.20%
Total Other Elements	0.15% Max.

Specifications

Melting Pt.	1190 °F 645 °C
Flow Pt.	1300 °F 705 °C
MBT ¹	1475
AWS A5.8	BCuP-6
ASME	BCuP-6
QQ-B-650	BCuP-6
Preform Options	Brazing Rings Custom Designs Cut-Offs
Resale Options ²	Brazing Rods Brazing wire Paste
Pricing & availability	Our advanced manufacturing processes are second to none. This results in superior quality that is still provided at an industry competitive prices. We offer many items from stock including Brazeit #0 brazing rings and brazing rod items.
Approx. Wire Length (BCuP/lb.) (BAg/Tr.oz)	1140 in @ 0.062 diameter 4570 in @ 0.031 diameter 500 in @ 0.093 diameter

¹ Recommended Brazing Temperature

² Brazing Wire - Auto Feed Spools

Physical Constants

Solidus	1190 °F 643 °C
Liquidus	1450 °F 788 °C
Brazing Range	1300 to 1450 °F 643 to 788 °C
Specific Gravity	8.00
Density	4.21 T.oz./cu.in. 0.289 lb./cu.in
Electrical Conductivity	5.5 % IACS
Electrical Resistivity	31.5 Micro ohm-cm
Color	Light Copper

Properties of Brazed Joints

Generally, the joint strength using Brazeit 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 Brazeit 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).

Applications

The phosphorus content of Brazeit 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, a brazing flux must be used to promote wetting, bonding, and flow throughout the joint. The flow point of Brazeit 2 is 1300 °F (704 °C).

Silver addition lowers solidus temperature, not as fluid as Sil. 0, gap clearance .001" to .003".

Safety Information

The operation and maintenance of brazing equipment or facility should conform to the provisions of American National Standard (ANSI) 49.1, "Safety in Welding and Cutting." For more complete information refer to the Material Safety Data Sheet for Brazeit 2.

Available Forms

Standard forms of Brazeit 2 are brazing wire and brazing preforms