

PREMABRAZE[®] 402

NOMINAL COMPOSITION

Gold	50.0% ± 0.5%
Copper	Remainder
Zinc	0.001% Max
Cadmium	0.001% Max
Lead	0.002% Max
Phosphorus	0.002% Max
Carbon	0.005% Max
Other high vapor pressure elements each ⁽¹⁾	0.001% Max
Total all high vapor pressure elements (Including zinc, cadmium, and lead)	0.010% Max
Total all other impurity elements	0.01% Max

⁽¹⁾ Elements with a vapor pressure higher than 10⁻⁷ Torr (1.3 x 10⁻⁵ Pa) at 932°F (500°C)

PHYSICAL PROPERTIES

Color	Red Brass
Melting Point (Solidus)	1751°F (955°C)
Flow Point (Liquidus)	1778°F (970°C)
Brazing Temperature Range	1778°F - 1868°F (970°C - 1020°C)
Specific Gravity	12.22
Density (Troy oz/in ³)	6.44
Electrical Conductivity (%IACS) ⁽²⁾	7.87
Electrical Resistivity (Microhm-cm)	23.7

⁽²⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Premabraz 402 can be used on any of the common ferrous and non-ferrous alloys. This alloy exhibits good wetting characteristics on metallized ceramics. Typical applications include brazing of electron tubes, vacuum tubes, radar devices, and wave guides in the electronic industry. Premabraz 402 is readily used in the brazing of ceramic to metal seals.

BRAZING CHARACTERISTICS

Premabraz 402 is generally used in reducing, vacuum, or inert atmospheres. It is a less ductile alloy than standard gold-copper-nickel alloys. The composition of the alloy allows for use in applications where braze filler metals low in volatile constituents are required. Due to its narrow plastic range, Premabraz 402 exhibits free flowing characteristics.

PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon the base metal, joint design and brazing technique. For controlled atmosphere brazing or vacuum brazing the recommended radial joint clearance for gold base alloys fall within 0.000 in. - 0.002 in. (0.00 mm - 0.05 mm.).

AVAILABLE FORMS

Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.

SPECIFICATIONS

Premabraz 402 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BVAu-10 Grade 1 and Grade 2
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BVAu-10 Grade 1 and Grade 2
- International Organization for Standardization (ISO) 17672 Au 503

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for Premabraz 402: A00000292, Legacy Code: 18-402.

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 Safety Data Sheet for Premabraz 402.

WARRANTY CLAUSE

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