

PREMABRAZE[®] 403

NOMINAL COMPOSITION

Gold	80.0% ± 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 (1.3×10^{-5} Pa) at 932°F (500°C)

PHYSICAL PROPERTIES

Color	Red Brass
Melting Point (Solidus)	1635°F (891°C)
Flow Point (Liquidus)	1635°F (891°C)
Brazing Temperature Range	1635°F - 1850°F (891°C - 1010°C)
Specific Gravity	15.68
Density (Troy oz/in ³)	8.26
Electrical Conductivity (%IACS) ⁽²⁾	N/A
Electrical Resistivity (Microhm-cm)	N/A

⁽²⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Premabraze 403 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, wave guides in electronic industry. Premabraze 403 is readily used in brazing of ceramic to metal seals.

BRAZING CHARACTERISTICS

Premabraze 403 is generally used in reducing, vacuum, or inert atmosphere. 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. Premabraze 403 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 403 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8M/A5.8 BAu-2
- American Welding Society (AWS) A5.8M/A5.8 BVAu-2 Grade 1 and Grade 2

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for Premabraz 403: 18-403.

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 Premabraz 403.

WARRANTY CLAUSE

Lucas-Milhaupt, Inc. believes the information contained herein to be reliable. However, the information is given by Lucas-Milhaupt, Inc. without charge and the user shall use such information at its own discretion and risk. This information is provided on an "AS IS" AND "AS AVAILABLE" basis and Lucas-Milhaupt, Inc. specifically disclaims warranties of any kind, either express or implied, including, but not limited to, warranties of title or implied warranties of merchantability or fitness for a particular purpose. No oral advice or written or electronically delivered information given by Lucas-Milhaupt, Inc. or any of its officers, directors, employees, or agents shall create any warranty. Lucas-Milhaupt, Inc. assumes no responsibility for results obtained or damages incurred from the use of such information in whole or in part.