

## PREMABRAZE<sup>®</sup> 140

### ***NOMINAL COMPOSITION***

---

Gold	40.0% ± 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 <sup>(1)</sup>	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

<sup>(1)</sup> Elements with a vapor pressure higher than  $10^{-7}$  Torr ( $1.3 \times 10^{-5}$  Pa) at 932°F (500°C)

### ***PHYSICAL PROPERTIES***

---

Color	Red Brass
Melting Point (Solidus)	1796°F (980°C)
Flow Point (Liquidus)	1832°F (1000°C)
Brazing Temperature Range	1832°F - 1932°F (1000°C - 1056°C)
Specific Gravity	11.39
Density (Troy oz/in <sup>3</sup> )	6.00
Electrical Conductivity (%IACS) <sup>(2)</sup>	20.3
Electrical Resistivity (Microhm-cm)	8.5

<sup>(2)</sup> IACS = International Annealed Copper Standard

### ***PRODUCT USES***

---

Alloy Premabraz 140 is a high-purity gold/copper alloy which is commonly used in vacuum brazing. Premabraz 140 can be used on any of the common ferrous and non-ferrous alloys – which may include copper, nickel and Kovar. This alloy exhibits good wetting characteristics on metallized ceramics. Typical applications include brazing of electron tubes, vacuum tubes, radar devices, wave guides in the electronic industry, and other aerospace applications. Premabraz 140 is readily used in the brazing of ceramic to metal seals.

### ***BRAZING CHARACTERISTICS***

---

Premabraz 140 is generally used in reducing, vacuum, or inert atmospheres. 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 140 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 140 alloy conforms to the following specifications: N/A

## ***APPLICABLE PRODUCT CODE(S)***

---

The applicable Lucas-Milhaupt product code(s) for Premabraz 140: 69-140.

## ***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 140.

## ***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.