

## PREMABRAZE<sup>®</sup> 500

### ***NOMINAL COMPOSITION***

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Gold	50.0% ± 0.5%
Nickel	25.0% ± 0.5%
Cobalt	0.06% Max
Palladium	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<sup>-7</sup> Torr (1.3 x 10<sup>-5</sup> Pa) at 932°F (500°C)

### ***PHYSICAL PROPERTIES***

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Color	Red Brass
Melting Point (Solidus)	2016°F (1102°C)
Flow Point (Liquidus)	2050°F (1121°C)
Brazing Temperature Range	2050°F - 2150°F (1121°C - 1177°C)
Specific Gravity	13.37
Density (Troy oz/in <sup>3</sup> )	6.90
Electrical Conductivity (% IACS) <sup>(2)</sup>	4.60
Electrical Resistivity (Microhm-cm)	37.5

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

### ***PRODUCT USES***

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Premabraze 500 can be used on any of the common nickel, molybdenum, tungsten, and iron base heat resistant alloys. Typical uses for this alloy include brazing of assemblies requiring high oxidation resistance, and high strength at elevated temperatures.

### ***BRAZING CHARACTERISTICS***

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Premabraze 500 is a modified gold-nickel alloy. The addition of palladium renders this alloy improved oxidation resistance properties. Premabraze 500 is generally used in reducing, vacuum, or inert atmosphere. The composition of the alloy allows for use in applications where braze filler metals low in volatile constituents are required. A minimum brazing temperature of 2050°F (1120°C) is suggested for furnace brazing in hydrogen or dissociated ammonia having a -40°F dew point or drier on 300 and 400 series stainless steels which do contain any intentionally added Ti or Al elements.

## ***PROPERTIES OF BRAZED JOINTS***

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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.) range.

## ***AVAILABLE FORMS***

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Wire, engineered preforms, specialty preforms per customer specification.

## ***SPECIFICATIONS***

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Premabraz 500 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8M/A5.8 BVAu-7 Grade 1 and Grade 2
- Society of Automotive Engineers (SAE) / AMS 4784
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BVAu-7 Grade 1 and Grade 2
- International Organization for Standardization (ISO) 17672 Au 507

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

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The applicable Lucas-Milhaupt product code(s) for Premabraz 500: A00000440, Legacy Code: 69-150.

## ***SAFETY INFORMATION***

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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 500.

## ***WARRANTY CLAUSE***

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