

PREMABRAZE[®] 680

NOMINAL COMPOSITION

Silver	68.0% +/- 1.0%
Copper	Remainder
Palladium	5.0% +/- 0.5%
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	Silver White
Melting Point (Solidus)	1485°F (807°C)
Flow Point (Liquidus)	1490°F (810°C)
Brazing Temperature Range	1490°F - 1650°F (809°C - 899°C)
Specific Gravity	10.08
Density (Troy oz/in ³)	5.31
Electrical Conductivity (%IACS) ⁽²⁾	48.3
Electrical Resistivity (Microhm-cm)	3.57

⁽²⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Premabraz 680 can be used on any of the common ferrous and non-ferrous alloys. Due to its low vapor pressure compared to standard silver base filler metals, Premabraz 680 is suitable for use in all vacuum applications such as electronic valve construction, and vacuum tube construction in electronic industry. Often this alloy is used in brazing of metallized ceramics to nickel-cobalt-iron assemblies and in glass to metal seals.

BRAZING CHARACTERISTICS

Premabraz 680 exhibits higher corrosion and oxidation resistance in comparison to standard silver-copper alloys. There is limited potential of erosion of the base metals with silver-copper-palladium filler metals as oppose to standard silver-copper alloys.

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 silver base alloys fall within 0.000 in. - 0.002 in. (0.00 mm - 0.05 mm) range.

AVAILABLE FORMS

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

SPECIFICATIONS

Premabraz 680 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BVAg-30 Grade 1 Grade 2

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for Premabraz 680: 18-680.

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 680.

WARRANTY CLAUSE

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