

PREMABRAZE[®] 051

NOMINAL COMPOSITION

Gold	75.0% ± 0.5%
Copper	20.0% ± 0.5%
Silver	5.0% ± 0.5%
Other Volatile Elements (Each) ⁽¹⁾	0.002% Max
Volatile Elements Total (incl. Cd, Zn, Pb)	0.010% Max
Non-Volatile Elements (Total)	0.05% Max

⁽¹⁾ Elements with a vapor pressure higher than 10⁻⁷ torr at 932°F (500°C) such as Mg, Sb, K, Li, Ti, S, Cs, Rb, Se, Te, Sr and Ca

PHYSICAL PROPERTIES

Color	Gold Red
Melting Point (Solidus)	1625°F (885°C)
Flow Point (Liquidus)	1643°F (895°C)
Brazing Temperature Range	1643°F - 1743°F (895°C - 951°C)
Specific Gravity	15.16
Density (Troy oz/in ³)	7.99
Electrical Conductivity (%IACS) ⁽²⁾	13.2
Electrical Resistivity (Microhm-cm)	13.1

⁽²⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Premabraz 051 can be used on any of the common ferrous and non-ferrous base alloys. Due to its low and narrow plastic range, this alloy is a preferred choice in step brazing operations. Premabraz 051 exhibits excellent vacuum properties along with high corrosion and oxidation resistance properties.

BRAZING CHARACTERISTICS

Premabraz 051 is a modified gold-copper alloy. It is generally used in reducing, vacuum, or inert atmosphere. It is a more ductile alloy than standard gold-copper alloys. The composition of the alloy allows for use in applications where braze filler metals low in volatile constituents are required.

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.) range.

AVAILABLE FORMS

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

SPECIFICATIONS

Premabraz 051 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 18-051.

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 Premabraze 051.

WARRANTY CLAUSE

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