

## PREMABRAZE<sup>®</sup> 179

### ***NOMINAL COMPOSITION***

---

Palladium	60.0% ± 1.0%
Nickel	Remainder
Zinc	0.001% Max
Cadmium	0.001% Max
Lead	0.002% Max
Phosphorous	0.002% Max
Carbon	0.005% Max
Other Volatile Elements (Each) <sup>(1)</sup>	0.002% Max
Non-Volatile Elements (Total)	0.05% Max

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

### ***PHYSICAL PROPERTIES***

---

Color	White Gray
Melting Point (Solidus)	2260°F (1238°C)
Flow Point (Liquidus)	2260°F (1238°C)
Brazing Temperature Range	2260°F - 2385°F (1238°C - 1307°C)
Specific Gravity	10.54
Density (Troy oz/in <sup>3</sup> )	5.55
Electrical Conductivity (%IACS) <sup>(2)</sup>	9.37
Electrical Resistivity (Microhm-cm)	18.4

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

### ***PRODUCT USES***

---

Premabraze 179 is a high strength brazing alloy that can be used on any of the common superalloys, tungsten, nickel, iron base heat resistant alloys. Because of its low penetration of the base metal, it is well suited for brazing of thin sections, such as thin-wall tubing or electronic vacuum devices.

### ***BRAZING CHARACTERISTICS***

---

Due to its high palladium content, this alloy exhibits excellent corrosion resistance properties with low penetration of the substrates. 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 2260°F (1238°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***

---

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 179 alloy conforms to the following specifications: N/A

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

---

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 69-179.

## ***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 179.

## ***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.