

PREMABRAZE[®] 180

NOMINAL COMPOSITION

Palladium	65.0% ± 1.0%
Cobalt	Remainder
Nickel	0.06% Max
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 x 10⁻⁵ Pa) at 932°F (500°C)

PHYSICAL PROPERTIES

Color	White Gray
Melting Point (Solidus)	2245°F (1230°C)
Flow Point (Liquidus)	2255°F (1235°C)
Brazing Temperature Range	2255°F - 2385°F (1235°C - 1307°C)
Specific Gravity	10.71
Density (Troy oz/in ³)	5.64
Electrical Conductivity (%IACS) ⁽²⁾	7.87
Electrical Resistivity (Microhm-cm)	22.0

⁽²⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Premabraz 180 can be used on any of the common molybdenum, tungsten and 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 2255°F (1235°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.

SPECIFICATIONS

Premabraz 180 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BVPd-1 Grade 1 and Grade 2
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BVPd-1 Grade 1 and Grade 2
- International Organization for Standardization (ISO) 17672 Pd 657a

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for Premabraz 180: A00000444, Legacy Code: 69-180.

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 180.

WARRANTY CLAUSE

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