

PREMABRAZE® 540

NOMINAL COMPOSITION

Silver	54.0% ± 1.0%
Copper	21.0% ± 1.0%
Palladium	25.0% ± 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 x 10⁻⁵ Pa) at 932°F (500°C)

PHYSICAL PROPERTIES

Color	Silver White
Melting Point (Solidus)	1652°F (900°C)
Flow Point (Liquidus)	1740°F (950°C)
Brazing Temperature Range	1740°F - 1840°F (950°C - 1004°C)
Specific Gravity	10.44
Density (Troy oz/in ³)	5.50
Electrical Conductivity (%IACS) ⁽²⁾	15.0
Electrical Resistivity (Microhm-cm)	11.5

⁽²⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Premabraz 540 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 540 is suitable for use in all vacuum applications such as electronic valve construction, and vacuum tube construction in electronic industry. Premabraz 540 offers low penetration of the substrates; therefore it is often recommended in brazing of thin wall assemblies i.e. honeycomb structures and heat exchangers. Often this alloy is used in brazing of metallized ceramics to nickel-cobalt-iron assemblies. In aerospace industry, Premabraz 540 has been used in brazing of compressor stator assemblies.

BRAZING CHARACTERISTICS

The palladium content in Premabraz 540 inhibits the potential of stress corrosion cracking in iron-nickel base metals in comparison to standard silver-copper alloys. Premabraz 540 exhibits high corrosion and oxidation resistance.

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 540 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8M/A5.8 BVAg-32 Grade 1 and Grade 2
- International Organization for Standardization (ISO) 17672 Pd 587a

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for Premabraz 540: A00000297, Legacy Code: 18-540.

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 540.

WARRANTY CLAUSE

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