

## PREMABRAZE<sup>®</sup> 550

### ***NOMINAL COMPOSITION***

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Silver	55.0% ± 1.0%
Copper	30.0% ± 1.0%
Palladium	10.0% ± 1.0%
Nickel	5.0% +/- 0.5%
Zinc	0.002% Max
Cadmium	0.002% Max
Lead	0.002% Max
Phosphorus	0.020% Max
Carbon	0.005% Max
Other high vapor pressure elements each <sup>(1)</sup>	0.002% Max
Total all high vapor pressure elements (Including zinc, cadmium, and lead)	0.010% Max
Total all other impurity elements	0.05% Max

<sup>(1)</sup> Elements with a vapor pressure higher than 10<sup>-7</sup> Torr (1.3 x 10<sup>-5</sup> Pa) at 932°F (500°C)

### ***PHYSICAL PROPERTIES***

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Color	Silver White
Melting Point (Solidus)	1520°F (827°C)
Flow Point (Liquidus)	1600°F (871°C)
Brazing Temperature Range	1600°F - 1800°F (871°C - 982°C)
Specific Gravity	10.01
Density (Troy oz/in <sup>3</sup> )	5.27
Electrical Conductivity (%IACS) <sup>(2)</sup>	N/A
Electrical Resistivity (Microhm-cm)	N/A

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

### ***PRODUCT USES***

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Premabraze 550 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, Premabraze 550 is suitable for use in all vacuum applications such as electronic valve construction, and vacuum tube construction in electronic industry. This alloy has been frequently used in orthodontic applications where corrosion resistance and color match to stainless steel base metal are important.

### ***BRAZING CHARACTERISTICS***

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Premabraze 550 is a modified silver-copper-palladium alloy. The addition of nickel renders this alloy somewhat more sluggish in flow characteristics but improves wettability on ferrous alloys. Premabraze 550 is generally used in reducing or inert atmosphere or vacuum. The composition of the alloy allows for use in applications where braze filler metals low in volatile constituents are required.

## ***PROPERTIES OF BRAZED JOINTS***

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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***

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Powder and paste.

## ***SPECIFICATIONS***

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Premabraz 550 alloy conforms to the following specifications: N/A

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

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The applicable Lucas-Milhaupt product code(s) for Premabraz 550: 18-550.

## ***SAFETY INFORMATION***

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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 550.

## ***WARRANTY CLAUSE***

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