LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

PREMABRAZE® 520

NOMINAL COMPOSITION

Silver	52.0% ± 0.5%
Copper	28.0% ± 0.5%
Palladium	20.0% ± 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 (1.3×10^{-5} Pa) at 932ºF (500ºC)

PHYSICAL PROPERTIES

Color	Silver White
Melting Point (Solidus)	1607°F (875°C)
Flow Point (Liquidus)	1652°F (900°C)
Brazing Temperature Range	1697°F - 1778°F (925°C - 970°C)
Specific Gravity	9.86
Density (Troy oz/in^3)	5.39
Electrical Conductivity (%IACS) (2)	N/A
Electrical Resistivity (Microhm-cm)	N/A

(2) IACS = International Annealed Copper Standard

PRODUCT USES

Premabraze 520 can be used on any of the common ferrous and non-ferrous alloys in vacuum or controlled atmosphere brazing applications. Due to its low vapor pressure compared to standard silver base filler metals, Premabraze 520 is suitable for use in all vacuum applications such as electronic valve construction and vacuum tube construction in electronic industry. This alloy is also used in brazing of metallized ceramics and molybdenum base materials such as TZM for x-ray applications.

BRAZING CHARACTERISTICS

Due to its tight melting range, Premabraze 520 is very fluid at braze temperature which makes it ideal for long or narrow clearances. The palladium content in Premabraze 520 inhibits the potential of stress corrosion cracking in iron-nickel base metals in comparison to standard silver-copper alloys. Premabraze 520 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.

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AVAILABLE FORMS

Wire, strip, engineered preforms, specialty preforms per customer specification.

SPECIFICATIONS

Premabraze 520 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for Premabraze 520: A00000448, Legacy Code: 69-252.

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 Premabraze 520.

WARRANTY CLAUSE

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