

SILVALOY[®] 721 AMB [Active Metal Braze] **(BRAZE[™] 721 AMB)**

NOMINAL COMPOSITION

Silver	68.75% ± 0.5%
Copper	26.75% ± 0.5%
Titanium	4.5% ± 1.0%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	White
Melting Point (Solidus) ⁽¹⁾	1435°F (780°C)
Flow Point (Liquidus) ⁽¹⁾	1562°F (850°C)
Brazing Temperature Range	1600°F - 1800°F (871°C - 982°C)
Specific Gravity	9.48
Density (Troy oz/in ³)	5.00
Electrical Conductivity (x10 ⁶ / (ohm*m))	29.0
Electrical Resistivity (x10 ⁻⁹ ohm*m)	34.0

⁽¹⁾ Determined by differential thermal analysis (DTA)

PRODUCT USES

Silvaloy 721 AMB [Active Metal Braze] is a three layer composite metal sandwich consisting of commercially pure titanium [Grade 1] core clad on each side with Silvaloy 721 [VTG grade] alloy. The relative weight % of titanium is approximately 4.00 – 4.50% in the presently available clad product. Other weight % of titanium can be produced for special applications if warranted.

Silvaloy 721 AMB is designed to braze metallic to non-metallic substrates. This cladded product will wet ceramics, PCD, CBN, titanium and super alloys. Silvaloy 721 AMB exhibits excellent wetting characteristics on ceramic surfaces eliminating the need for metallization and plating processes. Typical applications include brazing of vacuum tubes, wave guides in electrical and electronics industry and PCD, CBN and tungsten backed substrates in industrial tool applications

BRAZING CHARACTERISTICS

Silvaloy 721 AMB is generally used in high vacuum environment. The recommended vacuum pressure should be 10⁻⁴ Torr or better. It can also be used in inert and reducing atmospheres such as Argon and Hydrogen with a dew point of -60 °F or better.

PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon numerous factors including base metal properties, joint design, metallurgical interaction between the base metal and the filler metal.

AVAILABLE FORMS

Available in a cladded sheet form at various thicknesses and widths.

SPECIFICATIONS

Silvaloy 721 [Active Metal Braze] conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BVAg-8 Grade 1 (clad layer prior to use)

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 69-840.

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 Silvaloy 721 AMB.

WARRANTY CLAUSE

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