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SILVERBRAZE In15 (BVAg-29)

TECHNICAL DATA

NOMINAL COMPOSITION

Silver	61.5% ± 1.0
Indium	14.5% ± 0.5
Copper	Balance
Cadmium	0.001% max.
Zinc	0.001% max.
Phosphorus	0.002% max.
Lead	0.002% max.
Carbon	0.005% max.
Other volatile elements each*	0.002% max.
Volatile elements total	0.010% max.
Total non-volatile elements (Grade 1)	0.01% max.
Total non-volatile elements (Grade 2)	0.05% max.

*Elements with a vapor pressure higher than 10^{-7} torr at 932ºF (such as Mg, Sb, K, Li,TI,S,Cs,Rb,Se,Te,Sr, and Ca) are limited to 0.001% each for Grade 1 and 0.002% for Grade 2.

PHYSICAL PROPERTIES

Color	Silver White
Solidus	1155°F (624°C)
Liquidus	1305°F (707°C)
Recommended Brazing Temperature	1355-1405°F (735-763°C)
Density (Troy oz/in^3)	5.19
Specific Gravity	9.85
Electrical Conductivity (%IACS)	16
Electrical Resistivity (Microhm-cm)	10.7
Young's Modulus (GPa)	76
Yield Strength (MPa)	386
Tensile Strength (MPa)	448
Thermal Conductivity (W/(m•K))	55
CTE (x10^{-6}/°C)	18.5
Hardness (KHN)	125
Elongation (%)	19

USES

Silver Braze In15 is used in a wide range of moderate temperature low pressure systems, and is found quite often in electronic vacuum tube applications.

BRAZING CHARACTERISTICS

SBIn15 is a low temperature vacuum-grade filler metal which has a tendency to liquate when heated at a slow rate due to its large melt range. SBIn15 is designed for all types of moderate temperature vacuum systems and particularly where maximum precautions must be taken to ensure the presence of only a minimum amount of detrimental volatile impurities. It can be brazed successfully under hydrogen, inert or vacuum atmospheres without the use of flux. The indium content aids in wetting to the surface of ferrous alloys compared to silver-copper-zinc systems.

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 falls within 0.000in – 0.002in (0.00mm – 0.05mm) range.
SPECIFICATIONS	SBIn15 alloy conforms to: Unified Numbering System (UNS) P07627 and American Welding Society (AWS) A5.8/A5.8M BVAg-29 Grade 1 and Grade 2.
AVAILABLE FORMS	Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.
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.”

Individuals requiring further information and Engineering Specification Documents may wish to contact the Engineering Society for Advanced Mobility, Land Sea Air and Space, The Society of Automotive Engineers http://www.sae.org/ (SAE AMS) or The American Welding Society (AWS) http://aws.org/

NOTE:

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