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SILVERBRAZE 60Sn10 (BAg-18/BVAg-18) TECHNICAL DATA

NOMINAL COMPOSITION

Silver	60.0% ± 1.0
Tin	10.0% ± 1.0
Copper	Remaining
Other Elements Total	0.15% Max
<u>Vacuum Grade Trace Elements</u>	
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 932°F (such as Mg, Sb, K, Li, Tl, 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	White
Solidus	1115°F (601°C)
Liquidus	1325°F (718°C)
Recommended Brazing Temperature	1375-1425°F (746-773°C)
Density (Troy oz/in³)	5.17
Specific Gravity	9.82
Electrical Conductivity (%IACS)	7.10
Electrical Resistivity (Microhm-cm)	24.1
Yield Strength (MPa)	358
Tensile Strength (MPa)	462
Elongation (%)	38

USES

Silver Braze 60Sn10 is a silver based brazing filler metal used in making of low temperature seals in vacuum tube components. Silver Braze 60Sn10 is often used in brazing of ferrous and non-ferrous alloys in a controlled atmosphere or vacuum furnace applications without the use of flux. It is recommended for brazing of heat exchanges exposed to salt water in marine environment. Salt water exposure may cause dezincification in braze alloys containing zinc, particularly in joints involving copper-nickel tubing.

**BRAZING
CHARACTERISTICS**

Silver Braze 60Sn10 can be used where low volatiles is not a requirement. This filler metal can be used successfully to braze in hydrogen atmospheres without the use of flux. The tin content of this filler metal improves its wetting characteristics on ferrous base alloys over in comparison to binary silver copper braze filler metals. The addition lowers the melting range versus binary silver copper compositions. There is some tendency for the filler metal to liquate, but this is minimized by rapid heating to brazing temperature.

**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 0.0015 in. - 0.002 in. (0.038 mm - 0.051 mm.) range.

SPECIFICATIONS

Silver Braze 60Sn10 conforms to: Unified Numbering System (UNS) P07600, American Welding Society (AWS) A5.8/A5.8M BAg-18/BVAg-18 and Society of Automotive Engineers (SAE) AMS 4773

AVAILABLE FORMS

Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.

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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