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APA 6
TECHNICAL DATA

NOMINAL COMPOSITION

Silver	63.0% ± 1.0
Copper	34.25% ± 1.0
Tin	1.0% ± 0.25
Titanium	1.75% ± 0.25
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	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

Solidus	1427°F (775°C)
Liquidus	1483°F (805°C)
Recommended Brazing Temperature	1583-1633°F (862-889°C)
Density (Toz/in^3)	5.12
CTE (x10^{-6}/°C) (RT-700°C)	18.7
Thermal Conductivity (W/(m•K))	170
Electrical Conductivity (x10^6/(ohm•m))	22
Electrical Resistivity (x10^{-9} ohm•m)	46
Yield Strength (MPa)	260
Tensile Strength (MPa)	402
Elongation (%)	22
Knoop Hardness (KHN)	110

USES

Suitable for brazing ceramics to metals as well as other non-metallic components without the need for prior metallization of the contact surface. Typical applications include:

- Aerospace components
- Medical equipment components
- Vacuum tubes
- Wave guide and Klystron assemblies

BRAZING CHARACTERISTICS	Suitable for use in all vacuum brazing applications as well as under partial pressure of argon gas. Brazing of active alloys under protective nitrogen atmosphere is not recommended. It is important to maintain a high purity, oxygen-free environment; any oxidation of reactive elements will limit alloy wettability across the non-metallic surface. For controlled atmosphere brazing or vacuum brazing the recommended radial joint clearance ranges between 0-0.002 in (0-0.05 mm).
PROPERTIES OF BRAZED JOINTS	The properties of a brazed joint are dependent upon the base metal, joint design and brazing technique. This alloy in particular is ductile and will exhibit exceptional corrosion resistance due to the high gold content.
SPECIFICATIONS	APA 6 conforms to: Cusin-1-ABA
AVAILABLE FORMS	Available in wire, 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: