Morgan Advanced Materials

WESGO

Data Sheet

Cusil®- ABA®

Description:

High-purity Active Braze Alloy of silver, copper and titanium developed for direct application to ceramic surfaces. Nominal composition by weight: **63.0% Ag, 35.25% Cu**, and **1.75% Ti**

Prime Features:

- Wets and bonds to virtually any metallic surface, as well as to non-metallics such as oxides, nitrides and carbides
- Allows ceramic-to-ceramic and ceramic-to-metal surfaces to be brazed without metallizing, firing and electroplating
- Cuts time and costs in manufacture of ceramic/metal assemblies
- Produces strong, highly reliable and vacuum-tight brazed joints

Typical Applications:

- One step bonding to ceramics

Suggested base materials:

- Copper, Kovar, Nickel, Carbon/ low alloy & Tool/high speed steel, Stainless steel, Ni-super alloys, Titanium, Refractory metals, Ceramics, Graphite, Diamond, Tungsten Carbide

Physical Properties*

Liquidus Temperature	815 °C
	1500 °F
Solidus Temperature	780 °C
	1435 °F
Coefficient of Thermal Expansion (CTE)	18.5 x 10^{-6}/C, for 20 – 500 °C
	10.3 x 10^{-6}/°F, for 68 – 932 °F
Thermal Conductivity (Calculated)	180 W/m·K
	104 BTU/ft·h· °F
Density	9.8 Mg/m^3
	0.354 lb/in^3
Yield Strength (0.2% offset)	271 MPa
	39.9 x 10^3 lb/in^2
Tensile Strength	346 MPa
	50.2 x 10^3 lb/in^2
Elongation (2in/50mm gage section)	20%
Electrical Resistivity	44 x 10^{-9} ohm·m
Electrical Conductivity	23 x 10^6/ohm·m
Vapor Pressure (Calculated)	
Recommended Brazing Temperatures	830 – 850 °C
Recommended Brazing Atmospheres	10^{-5} mm Hg, inert gas

* Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose whatsoever.

Impurity Limits

Zn	less than 0.001%
Cd	less than 0.001%
Pb	less than 0.002%
P	less than 0.002%
C	less than 0.01%

All other metallic impurities having a vapor pressure higher than 10^{-7} mm Hg at 500 °C are limited to 0.002% each. Impurities having a vapor pressure lower than 10^{-7} mm Hg at 500 °C are limited to a total of 0.075%. (This applies to all forms except powder and extrudable paste.)

Supplied As:

- Foil
- Wire
- Powder
- Extrudable paste
- Preforms

The determination as to the adaptability of any Wesgo materials to the specific needs of the Buyer is solely the Buyer's prerogative and responsibility. All technical information, data and recommendations are based on tests and accumulated experience data, which Wesgo believed to be reliable. However, the accuracy and completeness thereof are not guaranteed.

www.morganbrazealloys.com
Morgan Advanced Materials, 2425 Whipple Road, Hayward CA 94544
Contact: +1 510 491 1100 | Certifications: AS9100D, ISO9001:2015, ISO14001:2015