

Data Sheet

Nicusil[®] 8 (AMS 4765)

Description:

High-purity silver, copper and nickel alloy for vacuum brazing.
Nominal composition by weight: **56% Ag, 42% Cu** and **2% Ni**

Prime features:

- Excellent brazing filler for wide gaps
- Better wetting properties than alloys containing only Ag and Cu
- Greater strength than alloys containing only Ag and Cu

Suggested base materials:

- Copper, Nickel, Kovar, Metallized ceramic, Carbon/low alloy & Tool/high speed steel

Typical applications:

- Aero-engines (OEM and repair)
- Aerospace fuel-line assemblies
- Vacuum tubes
- Wave guide and Klystron assemblies
- Power supply surge arrestors
- Automotive components

Physical Properties*

Liquidus Temperature	893 °C
	1639 °F
Solidus Temperature	771 °C
	1420 °F
Coefficient of Thermal Expansion (CTE)	
Thermal Conductivity (Calculated)	237 W/m·K
	137 BTU/ft·h· °F
Density	
Yield Strength (0.2% offset)	339 MPa
	48.2 x 10 ³ lb/in ²
Tensile Strength	366 MPa
	53.1 x 10 ³ lb/in ²
Elongation (2in/50mm gage section)	20%
Electrical Resistivity	32 x 10 ⁻⁹ ohm·m
Electrical Conductivity	31.3 x 10 ⁶ /ohm·m
Vapor Pressure (Calculated)	
Recommended Brazing Temperatures	920 - 950 °C
Recommended Brazing Atmospheres	10 ⁻⁵ mm Hg, H ₂ , or 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
- Flexibraz
- 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.