

Data Sheet

Nicumán[®] 23

Description:

High-purity copper, manganese and nickel alloy for vacuum brazing.
Nominal composition by weight: **67.5% Cu, 23.5% Mn and 9% Ni**

Prime features:

- Higher strength than Ag-based alloys
- Higher application temperature
- Good ductility

Typical applications:

- Vacuum tubes
- Aerospace engines
- Cutting tools

Physical Properties*

Liquidus Temperature	955 °C
	1751 °F
Solidus Temperature	925 °C
	1697 °F
Coefficient of Thermal Expansion (CTE)	
Thermal Conductivity (Calculated)	8.9 W/m·K
	5.1 BTU/ft·h· °F
Density	7.90 Mg/m ³
	0.285 lb/in ³
Yield Strength (0.2% offset)	322 MPa
	46.8 x 10 ³ lb/in ²
Tensile Strength	590 MPa
	85.6 x 10 ³ lb/in ²
Elongation (2in/50mm gage section)	34%
Electrical Resistivity	845 x 10 ⁻⁹ ohm·m
Electrical Conductivity	1.18 x 10 ⁶ /ohm·m
Vapor Pressure (Calculated)	
Recommended Brazing Temperatures	975 – 1000 °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
- Wire

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.