

Data Sheet

40Au - 60Cu

Description:

High-purity gold and copper alloy for vacuum brazing.
Nominal composition by weight: **40% Au** and **60% Cu**

Prime Features:

- Suitable for brazing assemblies of copper, nickel and Kovar (Ni-Co-Fe alloy)
- Widely used for brazing ceramic components that have been moly-manganese metallized
- High-integrity brazed joint duties in critical applications

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	1000 °C
	1832 °F
Solidus Temperature	980 °C
	1796 °F
Coefficient of Thermal Expansion (CTE)	18.6 x 10 ⁻⁶ /°C, for 20 – 500 °C
	10.3 x 10 ⁻⁶ /°F, for 68 – 932 °F
Thermal Conductivity (Calculated)	75 W/m·K
	43 BTU/ft·h· °F
Density	11.3 Mg/m ³
	0.40 lb/in ³
Yield Strength (0.2% offset)	68.9 MPa
	10.0 x 10 ³ lb/in ²
Tensile Strength	427 MPa
	62.0 x 10 ³ lb/in ²
Elongation (2in/50mm gage section)	33%
Electrical Resistivity	103 x 10 ⁻⁹ ohm·m
Electrical Conductivity	9.7 x 10 ⁶ /ohm·m
Vapor Pressure (Calculated)	3.4 x 10 ⁻⁶ mm Hg @ 900 °C, 1652 °F
	3.4 x 10 ⁻⁵ mm Hg @ 1000 °C, 1832 °F
Recommended Brazing Temperatures	
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.