

Data Sheet

50Au-50Cu (Mac-560Au/50Cu-WM)

Description

High-purity gold/copper alloy for vacuum brazing.
Nominal composition by weight: **50% Au** and **50% Cu** (both within $\pm 1\%$).

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
- Greater strength than 35Au-65Cu grade

Typical Applications:

High-integrity brazed joint duties in:

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

Specifications

- Quality Assurance to ISO 9002

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 10-7mm Hg at 500C are limited to 0.002% each. Impurities having a vapor pressure **lower** than 10-7mm Hg at 500C 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

Physical Properties

Thermal Conductivity (Calculated)	33.0 W/m.K 19.1 BTU/ft.h.°F
Liquidus Temperature	970 °C 1778 °F
Solidus Temperature	955 °C 1751 °F
Thermal Expansion Coefficient	19.2 20-800C, 10 ⁻⁶ /C 10.7 68-1472°F, 10 ⁻⁶ /F
Density	12.0 Mg/m ³ 0.434 lb/in ³
Electrical resistivity	237 10 ⁻⁹ ohm.m:
Electrical conductivity	4.2 10 ⁶ /ohm.m
Yield Strength (0.2% offset)	128 MPa 18.5x10 ³ lb/in ²
Tensile Strength	393 MPa 57.0x10 ³ lb/in ²
Elongation (2in/50mm gage section)	37.5%
Vapor Pressure (calculated)	2x10 ⁻⁹ mmHg 700C, 1292°F 3x10 ⁻⁶ mmHg 900C, 1652°F

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We design and manufacture products for demanding applications in a variety of markets using a comprehensive range of advanced ceramic, glass, precious metal, piezoelectric and dielectric materials. We utilise core competences of applications engineering and superior materials technology, together with state of the art fully integrated manufacturing processes to offer precision ceramic components, ceramic-to-metal assemblies and special coatings for use in a variety of applications.