

Data Sheet

Nicusil™ (Mac-Nicusil™ 3-WM)

Description

High-purity silver/copper/nickel alloy for vacuum brazing.
Nominal composition by weight: **71.15% Ag, 28.1% Cu** and **0.75% Ni**.

Prime Features:

- Better wetting properties than alloys containing only Ag and Cu
- Greater strength than alloys containing only Ag and Cu

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.)

Typical Applications:

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

Supplied As:

- Foil
- Flexibraz
- Wire
- Powder
- Extrudable paste
- Preforms

Physical Properties

Thermal Conductivity (Calculated)	223 W/m.K
	129 BTU/ft.h.°F
Liquidus Temperature	795 °C
	1463 °F
Solidus Temperature	780 °C
	1436 °F
Recommended Brazing Temperatures	815-840 °C
	1499-1544 °F
Density	9.98 Mg/m ³
	0.361 lb/in ³
Electrical resistivity	34 10 ⁻⁹ ohm.m:
Electrical conductivity	29 10 ⁶ /ohm.m
Yield Strength	207 MPa
	33x10 ³ lb/in ²
Tensile Strength	330 MPa
	41.9x10 ³ lb/in ²
Elongation (2in/50mm gage section)	32%

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From an extensive range of advanced materials we produce components, assemblies and systems that deliver significantly enhanced performance for our customers' products and processes. Our engineered solutions are produced to high tolerances and many are designed for use in extreme environments.

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.