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GOLD BRAZE 5025 (BVAu-7)

TECHNICAL DATA

NOMINAL COMPOSITION

Gold	50% ± 0.5
Nickel	25% ± 0.5
Cobalt	0.06% max.
Palladium	Balance
Vacuum Grade Trace Elements	
Cadmium	0.001% max.
Zinc	0.001% max.
Phosphorus	0.002% max.
Lead	0.002% max.
Carbon	0.005% max.
Other volatile elements each*	0.002% max.
Volatile elements total	0.010% max.
Total non-volatile elements (Grade 1)	0.01% max.
Total non-volatile elements (Grade 2)	0.05% max.

*Elements with a vapor pressure higher than 10^{-7} torr at 932ºF (such as Mg, Sb, K, Li,Tl,S,Cs,Rb,Se,Te,Sr, and Ca) are limited to 0.001% each for Grade 1 and 0.002% for Grade 2.

PHYSICAL PROPERTIES

Color	Nickel Gray
Solidus	2015°F (1101°C)
Liquidus	2050°F (1121°C)
Recommended Brazing Temperature	2100-2150°F (1148-1176°C)
Density (Troy oz/in^3)	6.92
Yield Strength (MPa)	723
Tensile Strength (MPa)	840
Thermal Conductivity (W/m•K)	20
CTE (x10^{-6}/°C)	16
Electrical Resistivity (x10^{-9}ohm•m)	376
Electrical Conductivity (x10^6/(ohm•m))	2.7
Hardness (KHN)	327
Elongation (%)	24

USES

Gold Braze 5025 can be used on any of the common ferrous, non-ferrous, and super alloys. In aerospace industry, Gold Braze 5025 can be used in brazing of fuel line assemblies and aero-engine components. Gold Braze 5025 can be used as the highest melting BAu alloy for step brazing in conjunction with AMS 4786 & AMS 4787.

BRAZING CHARACTERISTICS	Gold Braze 5025 wets a wide range of high temperature iron & nickel base alloys such as the stainless steels, A286, Inconel & Inconel X very well. It does not alloy excessively with these materials nor produce the severe intergranular penetration normally associated with the nickel based brazing alloys containing boron. Gold Braze 5025 has increased ductility compared to the other gold/nickel alloys, due to its increased level of Pd. Joint clearances of 0.0015" - 0.003" are normally suggested.
PROPERTIES OF BRAZED JOINTS	The properties of a brazed joint are dependent upon numerous factors including base metal properties, joint design and brazing technique. For controlled atmosphere brazing or vacuum brazing the recommended radial joint clearance for gold base alloys fall within 0.000in – 0.002in (0.00mm-0.05mm) range.
SPECIFICATIONS	Gold Braze 5025 alloy conforms to: Unified Numbering System (UNS) P00507, American Welding Society (AWS) BVAu-7, Society of Automotive Engineers (SAE) AMS 4784
AVAILABLE FORMS	Wire, strip, rod, engineered preforms and specialty preforms per customer specification, powder and paste.

Individuals requiring further information and Engineering Specification Documents may wish to contact the Engineering Society for Advanced Mobility, Land Sea Air and Space, The Society of Automotive Engineers http://www.sae.org/ (SAE AMS) or The American Welding Society (AWS) http://aws.org/

NOTE:

DISCLAIMER