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CUSTOMER FOCUSED. SOLUTION DRIVEN.

## GOLD BRAZE 25

### TECHNICAL DATA

<b>NOMINAL COMPOSITION</b>	<b>Gold</b>	25.0% ± 1.0
	<b>Copper</b>	37.0% ± 1.0
	<b>Palladium</b>	15.0% ± 1.0
	<b>Nickel</b>	10.0% ± 1.0
	<b>Manganese</b>	13.0% ± 1.0
	<b>Zinc and Cadmium, each</b>	0.001% max.
	<b>Lead and Phosphorus, each</b>	0.002% max.
	<b>Carbon</b>	0.005% max.
	<b>Other volatile elements, each*</b>	0.001% max.
	<b>Volatile elements total (incl. Cd, Zn, Pb)</b>	0.010% max.
	<b>Non-Volatile Elements Total</b>	0.05% max.

\*Elements with a vapor pressure higher than  $10^{-7}$  mm Hg at 932°F (such as Mg, Sb, K, Li, Ti, S, Cs, Rb, Se, Te, Sr, and Ca)

<b>PHYSICAL PROPERTIES</b>	<b>Color</b>	Metallic Grey
	<b>Solidus</b>	1788°F (970°C)
	<b>Liquidus</b>	1855°F (1013°C)
	<b>Recommended Brazing Temperature</b>	1905-1955°F (1041-1068°C)
	<b>Density</b>	10.5 g/cm <sup>3</sup>
	<b>Young's Modulus</b>	132 GPa
	<b>Yield Strength</b>	411 MPa
	<b>Tensile Strength</b>	770 MPa
	<b>Thermal Conductivity</b>	12.5 W/(m•K)
	<b>Thermal Coefficient of Expansion</b>	18.8x10 <sup>-6</sup> /°C
	<b>Electrical Resistivity</b>	606x10 <sup>-9</sup> ohm•m
	<b>Electrical Conductivity</b>	165x10 <sup>6</sup> /(ohm•m)
	<b>Hardness</b>	212 KHN
<b>Elongation</b>	31%	

**USES**  
GB25 is typically used for joining PCD to steel or carbide in tooling applications. It may also exhibit successful wetting and joining for a variety of other surfaces due to its diverse composition.

**BRAZING  
CHARACTERISTICS**  
GB25 can be brazed by a variety of different processes including induction and atmospheric furnace brazing. It is important to ensure that the base components are properly cleaned prior to the application of the braze alloy. A joint clearance of 0.002-0.004 in. is recommended for brazing depending on base alloy type and joint configuration. The precious metal content of GB25 offers improved corrosion resistance and due to its narrow melt range GB25 exhibits free flowing characteristics.

**PROPERTIES OF BRAZED JOINTS**

The properties of a brazed joint are dependent upon the base metal, joint design and brazing technique. For controlled atmosphere brazing or vacuum brazing the recommended radial joint clearance for gold base alloys fall within 0-0.002 in. (0-0.05 mm)

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**SPECIFICATIONS**

Goldbraz 25 conforms to: NA

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**AVAILABLE FORMS**

Strip, engineered preforms, specialty preforms, powder and paste

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**SAFETY INFORMATION**

The operation and maintenance of brazing equipment or facility should conform to the provisions of American National Standard (ANSI) Z49.1, "Safety in Welding and Cutting." For more complete information refer to the Material Safety Data Sheet for GB25.

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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:**

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