

## Prince & Izant Company

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## GOLD BRAZE 8116 TECHNICAL DATA

<b>NOMINAL COMPOSITION</b>	<b>Gold</b>	81.5% ± 0.5
	<b>Nickel</b>	2.0% ± 0.5
	<b>Copper</b>	Remaining
	<b>Other Volatile Elements, Each</b>	0.002% Max
	<b>Volatile Elements Total (incl. Cd, Zn, Pb)</b>	0.010% Max
	<b>Non-Volatile Elements Total</b>	0.05% Max
<b>PHYSICAL PROPERTIES</b>	<b>Color</b>	Gold Gray
	<b>Solidus</b>	1670°F (910°C)
	<b>Liquidus</b>	1697°F (925°C)
	<b>Recommended Brazing Temperature</b>	1748-1797°F (952-980°C)
	<b>Density (Troy oz/in<sup>3</sup>)</b>	8.38
	<b>Specific Gravity</b>	17.4
	<b>Electrical Conductivity (%IACS)</b>	9.20
	<b>Electrical Resistivity (Microhm-cm)</b>	18.7
	<b>Tensile Strength* (psi)</b>	75,500
	<b>Yield Strength* (psi)</b>	54,500
	<b>Elongation (%)</b>	22
	*0.020" annealed wire	
<b>USES</b>	Gold Braze 8116 can be used on any of the common nickel, molybdenum and iron base heat resistant alloys. Because of its low penetration of the base metal, it is well suited for brazing of thin sections, such as thin-wall tubing or electronic vacuum devices. Gold Braze 8116 is readily used in brazing of nickel-cobalt-iron alloys and metallized ceramics.	
	<b>BRAZING CHARACTERISTICS</b> Gold Braze 8116 is a modified gold-copper alloy. The addition of nickel renders this alloy somewhat more sluggish in flow characteristics but improves wettability on ferrous alloys. Gold Braze 8116 is generally used in reducing, vacuum or inert atmosphere. It is a more ductile, low vapor pressure alloy than standard gold-copper alloys. The composition of the alloy allows for use in applications where braze filler metals low in volatile constituents are required.	
<b>PROPERTIES OF BRAZED JOINTS</b>	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.	
<b>SPECIFICATIONS</b>	Gold Braze 8116 conforms to: NA	
<b>AVAILABLE FORMS</b>	Wire, strip, 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**

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