

## Prince & Izant Company

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## ANA 3 (BTi-1) TECHNICAL DATA

<b>NOMINAL COMPOSITION</b>	<b>Titanium</b>	70.0% ± 1.0
	<b>Copper</b>	15% ± 1.0
	<b>Nickel</b>	15% ± 1.0
	<b>Iron</b>	0.1% max.
	<b>Aluminum</b>	0.05% max.
	<b>Silicon</b>	0.02% max.
	<b>Oxygen</b>	0.15% max.
	<b>Nitrogen</b>	0.02% max.
	<b>Carbon</b>	0.04% max.
	<b>Other Elements, Total*</b>	0.3% max.
<b>PHYSICAL PROPERTIES</b>	<b>Solidus</b>	1670°F (910°C)
	<b>Liquidus</b>	1760°F (960°C)
	<b>Recommended Brazing Temperature</b>	1860-1910°F (1016-1043°C)
	<b>Density (Troy oz/in<sup>3</sup>)</b>	2.8
	<b>CTE, RT-500°C (x10<sup>-6</sup>/°C)</b>	10.8
	<b>Electrical Conductivity (10<sup>6</sup>/ohm•m)</b>	2.6
	<b>Electrical Resistivity (10<sup>-9</sup> ohm•m)</b>	490
	<b>Thermal Conductivity (W/m•K)</b>	15
	<b>Yield Strength, 0.2% offset (MPa)</b>	310
	<b>Tensile Strength (MPa)</b>	390
<b>Young's Modulus (GPa)</b>	117	
<b>Elongation, 2" gage length (%)</b>	20	
<b>USES</b>	Suitable for brazing ceramics to metals as well as other non-metallic components without the need for prior metallization of the contact surface.	
<b>BRAZING CHARACTERISTICS</b>	Suitable for use in all vacuum brazing applications as well as under partial pressure of argon gas. Brazing of active alloys under protective nitrogen atmosphere is not recommended. It is important to maintain a high purity, oxygen-free environment; any oxidation of reactive elements will limit alloy wettability across the non-metallic surface. For controlled atmosphere brazing or vacuum brazing the recommended radial joint clearance for silver-base alloys ranges between 0-0.002 in (0-0.05 mm).	
<b>PROPERTIES OF BRAZED JOINTS</b>	The properties of a brazed joint are dependent upon the base metal, joint design and brazing technique.	
<b>SPECIFICATIONS</b>	ANA 3 conforms to: American Welding Society (AWS) A5.8/A5.8M BTi-1	
<b>AVAILABLE FORMS</b>	Strip, engineered preforms, specialty preforms per customer specification, powder and paste.	

**SAFETY  
INFORMATION**

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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."

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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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