

## Bellman-Melcor

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## #A-50N (BAg-24)

### TECHNICAL DATA

<b>NOMINAL COMPOSITION</b>	<b>Silver</b>	50.0% ± 1.0
	<b>Copper</b>	20.0% ± 1.0
	<b>Zinc</b>	28.0% ± 2.0
	<b>Nickel</b>	2.0% ± 0.5
	<b>Other</b>	0.15% Max
<b>PHYSICAL PROPERTIES</b>	<b>Color</b>	Yellow White
	<b>Solidus</b>	1220°F (660°C)
	<b>Liquidus</b>	1305°F (707°C)
	<b>Recommended Brazing Temperature</b>	1355-1405°F (735-762°C)
	<b>Density (Troy oz/in<sup>3</sup>)</b>	4.83
	<b>Specific Gravity</b>	9.17
	<b>Electrical Conductivity (%IACS)</b>	15.0
<b>Electrical Resistivity (Microhm-cm)</b>	11.9	

### USES

#A-50N readily wets nickel and iron base alloys. It is recommended for joining 300 Series stainless steel and will retard interface corrosion in most exposures for which the base metals are suitable. However, for joints on cupro-nickel exposed to salt water at elevated temperatures, zinc-free alloys should be used to avoid joint failure by dezincification. Because this alloy is cadmium-free, it can be safely used on food handling equipment and hospital utensils. The presence of nickel in #A-50N aids in the joining of small tungsten carbide inserts in cutting tools. In addition, it offsets joint interface brittleness caused by diffusion of aluminum into the brazing alloy, when joining aluminum-bronze to steel.

### BRAZING CHARACTERISTICS

#A-50N is very fluid at its flow point and will quickly fill long, narrow joints. Because it has the tendency to liquate (separation into low and high melting constituents) when heated slowly, this alloy should be heated quickly through its melting range. Its low flow point will minimize oxidation of the stainless steel during brazing. Flux is normally used.

### PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon numerous factors including base metal properties, joint design, metallurgical interaction between the base metal and the filler metal. The results listed below were generated from brazed butt joints which were tested under standard room temperature conditions.

	<b><u>Tensile Strength (lbs/in<sup>2</sup>)</u></b>	<b><u>Elongation (% 2" gage length)</u></b>
18-8 Stainless Steel (annealed)	69,500-88,000	1-9
1029 Carbon Steel (Cold Worked)	66,000-73,300	15-25

**SPECIFICATIONS**

#A-50N conform to: Unified Numbering System (UNS) P07505, American Welding Society (AWS) A5.8/A5.8M BAg-24 and Society of Automotive Engineers (SAE) AMS 4788

**AVAILABLE FORMS**

Wire, strip, engineered preforms, 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:**

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