

## Bellman-Melcor

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## #A-30 (BAg-20)

### TECHNICAL DATA

<b>NOMINAL COMPOSITION</b>	<b>Silver</b>	30.0% ± 1.0
	<b>Copper</b>	38.0% ± 1.0
	<b>Zinc</b>	32.0% ± 1.0
	<b>Other Elements Total</b>	0.15% Max
<b>PHYSICAL PROPERTIES</b>	<b>Color</b>	Light Yellow
	<b>Solidus</b>	1250°F (676°C)
	<b>Liquidus</b>	1410°F (776°C)
	<b>Recommended Brazing Temperature</b>	1460-1510°F (793-821°C)
	<b>Density (Troy oz/in<sup>3</sup>)</b>	4.66
	<b>Specific Gravity</b>	8.84
	<b>Electrical Conductivity (%IACS)</b>	24.4
	<b>Electrical Resistivity (Microhm-cm)</b>	6.85
<b>USES</b>	<p>#A-30 is a general purpose, intermediate temperature brazing alloy for use on copper, brass, nickel-silver, bronze, steel and other nonferrous alloys melting above 1450F (765C). Uses include the brazing of nickel-silver hollow knife handles and electrical equipment. It is particularly adaptable to metal bath dip brazing of fine wires for radio, small transformer and electronics assemblies because its flow point matches the fluid temperature of borax. Borax is used as a metal bath flux cover because it is less corrosive to ceramic pot linings.</p>	
<b>BRAZING CHARACTERISTICS</b>	<p>#A-30 is an intermediate temperature silver brazing alloy with a fairly long (160F/70C) melting range. This long melting range is helpful when wide gap joints are brazed and is useful in producing large joint fillets to reduce the notch effect on stressed assemblies. Where the higher brazing temperature and characteristics of this alloy are permissible, the lower silver content affords a saving. Flux should be used with this alloy.</p>	
<b>PROPERTIES OF BRAZED JOINTS</b>	<p>The properties of a brazed joint are dependent upon the base metal, joint design, metallurgical interaction between the base metal and filler metal. The results listed below were generated from brazed butt joints which were tested under standard room temperature conditions.</p>	
	<b><u>Tensile Strength (lbs/in<sup>2</sup>)</u></b>	<b><u>Elongation (% , 2" gage length)</u></b>
Copper	30,000-35,000	15-25
Brass	35,000-45,000	16-31
Nickel-Silver	35,000-40,000	7-17
<b>SPECIFICATIONS</b>	<p>#A-30 alloy conforms to: Unified Numbering System (UNS) P07301 and American Welding Society (AWS) A5.8/A5.8M BAg-20</p>	
<b>AVAILABLE FORMS</b>	<p>Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.</p>	

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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