

## Bellman-Melcor

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## AL 716 (BAISi-3)

### TECHNICAL DATA

<b>NOMINAL COMPOSITION</b>	<b>Aluminum</b>	Balance
	<b>Silicon</b>	10.0% ± 0.7
	<b>Copper</b>	4.0% ± 0.7
	<b>Iron</b>	0.8% Max
	<b>Magnesium</b>	0.15% Max
	<b>Manganese</b>	0.15% Max
	<b>Zinc</b>	0.2% Max
	<b>Chromium</b>	0.15% Max
	<b>Other Elements, Each</b>	0.05% Max
	<b>Other Elements, Total</b>	0.15% Max
<b>PHYSICAL PROPERTIES</b>	<b>Color</b>	Grayish-White
	<b>Solidus</b>	970°F (521°C)
	<b>Liquidus</b>	1085°F (585°C)
	<b>Recommended Brazing Temperature</b>	1085-1120°F (585-604°C)
	<b>Density (Lbs/in<sup>3</sup>)</b>	0.096
	<b>Specific Gravity</b>	2.66
	<b>Electrical Conductivity (%IACS)</b>	N/A
	<b>Electrical Resistivity (Microhm-cm)</b>	N/A
<b>USES</b>	AL 716 is a general purpose filler metal for joining aluminum and aluminum alloys. Corrosion resistance of AL 716 is less than that of AL 718. Solution temperature during heat treating must be below the solidus of the braze alloy in order to ensure integrity of the joint is maintained.	
<b>BRAZING CHARACTERISTICS</b>	AL 716 has a wider melt range than that of 718, therefore assemblies should be heated quickly through the melt range in order to prevent liquation. The increased silicon content compared to other aluminum filler metals provides increased fluidity as well as reduced shrinkage.	
<b>PROPERTIES OF BRAZED JOINTS</b>	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. Joint clearances of 0.003-0.005" (0.076-0.127 mm) per side ideal for achieving the highest joint strength in aluminum brazed assemblies.	
<b>SPECIFICATIONS</b>	AL 716 alloy conforms to: Unified Numbering System (UNS) A94145, American Welding Society (AWS) A5.8/A5.8M BAISi-3, Aluminum Association 4145 and Aerospace Material Specification (AMS) 4184	
<b>AVAILABLE FORMS</b>	Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.	

**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."

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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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