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AL 4004 (BAISi-7) TECHNICAL DATA

NOMINAL COMPOSITION	Aluminum	Balance
	Silicon	9.75% ± 0.75
	Magnesium	1.5% ± 0.5
	Copper	0.25% Max
	Iron	0.8% Max
	Manganese	0.1% Max
	Zinc	0.2% Max
	Other Elements, Each	0.05% Max
	Other Elements, Total	0.15% Max
PHYSICAL PROPERTIES	Color	Grayish-White
	Solidus	1038°F (559°C)
	Liquidus	1105°F (596°C)
	Recommended Brazing Temperature	1105-1205°F (596-652°C)
	Density (Lbs/in³)	0.096
	Specific Gravity	2.66
	Electrical Conductivity (%IACS)	N/A
Electrical Resistivity (Microhm-cm)	N/A	
USES	AL 4004 is a general purpose filler metal for joining aluminum and aluminum alloys. Corrosion resistance of AL 4004 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.	
BRAZING CHARACTERISTICS	AL 4004 has a low melting point and narrow melt range which makes it suitable for brazing aluminum alloys. In addition, the increased silicon content compared to other aluminum filler metals provides increased fluidity as well as reduced shrinkage. The use of AL 4004 also significantly reduces hot cracking during the brazing process. The increased magnesium content aids in preventing oxidation of the braze surface during heating.	
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. 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.	
SPECIFICATIONS	AL 4004 alloy conforms to: Unified Numbering System (UNS) A94004, American Welding Society (AWS) A5.8/A5.8M BAISi-7 and Aluminum Association 4004	
AVAILABLE FORMS	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."

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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