

Bellman-Melcor

7575 W. 183rd Street

Tinley Park, IL 60477

LOCAL: 708-532-5000

TOLL FREE: 800-367-6024

bellmanmelcor.com



AL 718 (BAISi-4)

TECHNICAL DATA

NOMINAL COMPOSITION	Aluminum	Balance
	Silicon	12.0% ± 1.0
	Copper	0.3% Max
	Iron	0.8% Max
	Magnesium	0.1% Max
	Manganese	0.15% Max
	Zinc	0.2% Max
	Other Elements, Each	0.05% Max
	Other Elements, Total	0.15% Max

PHYSICAL PROPERTIES	Color	Grayish-White
	Solidus	1070°F (577°C)
	Liquidus	1080°F (582°C)
	Recommended Brazing Temperature	1080-1120°F (582-604°C)
	Density (Lbs/in³)	0.096
	Specific Gravity	2.66
	Electrical Conductivity (%IACS)	N/A
	Electrical Resistivity (Microhm-cm)	N/A

USES AL 718 is a general purpose filler metal for joining aluminum and aluminum alloys. 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 718 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 718 also significantly reduces hot cracking during the brazing process.

**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.

Base Alloy	Tensile Strength (KSI)	Yield Strength (KSI)	Elongation (%)
2014-T6	34	28	4
6061-T4	27	28	8
6061-T6	27	28	8
6063-T4	20	10	12

SPECIFICATIONS AL 718 alloy conforms to: Unified Numbering System (UNS) A94047, American Welding Society (AWS) A5.8/A5.8M BAISi-4, Aluminum Association 4047 and Aerospace Material Specification (AMS) 4185

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:**DISCLAIMER**

The information and recommendations contained in this publication have been provided without charge & compiled from sources believed to be reliable and to represent the best information available on the subject at the time of issue. No warranty, guarantee, or representation is made by Bellman-Melcor (Prince and Izant Company, Inc.) as to the absolute correctness or sufficiency of any representation contained in this and other publications; Bellman-Melcor (Prince and Izant Company, Inc.) assumes no responsibility in connection therewith; nor can it be assumed that all acceptable safety measures are contained in this (and other publications, or that other or additional measures may not be required under particular or exceptional conditions or circumstances.