

AL 716

NOMINAL COMPOSITION

Aluminum	Remainder
Silicon	10.0% ± 0.7%
Copper	4.0% ± 0.7%
Other Elements (Each)	0.05% Max
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Grayish-White
Melting Point (Solidus)	970°F (521°C)
Flow Point (Liquidus)	1085°F (585°C)
Brazing Range	1060°F - 1120°F (571°C - 604°C)
Specific Gravity	2.74
Density (Lbs/in ³)	0.099
Electrical Conductivity (%IACS) ⁽¹⁾	N/A
Electrical Resistivity (Microhm-cm)	N/A

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

AL 716 is a general purpose brazing filler metal to join aluminum and aluminum alloys. When joining dissimilar metals thought should be given to the galvanic potential between the metals to avoid galvanic corrosion problems. The corrosion resistance of AL 716 is satisfactory but somewhat lower than that of AL 718 alloy. To maintain joint integrity on heat treatable aluminum alloys, the solution temperature must be below the solidus of the filler metal. To prevent liquation, it is recommended that the parts be heated rapidly through the solidus-liquidus temperature range.

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 in. (.076-.127 mm) per side are optimum for achieving highest joint strength. Joints with increased clearances can still produce adequate joint strengths depending on final operating conditions.

AVAILABLE FORMS

Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.

SPECIFICATIONS

AL 716 alloy conforms to the following specifications:

- Aluminum Association (AA) 4145
- American Welding Society (AWS) A5.8/A5.8M BAlSi-3
- Aerospace Material Specification (AMS) 4184

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 62-716.

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". For more complete information refer to the Material Safety Data Sheet for AL 716.

WARRANTY CLAUSE

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