LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

HANDY ONE® AL 718
KX718FCW, KX718FCWW

NOMINAL COMPOSITION

Aluminum	Remainder
Silicon	12.0% ± 1.0%
Other Elements (Each)	0.05% Max
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Grayish-White
Melting Point (Solidus)	1070°F (577°C)
Flow Point (Liquidus)	1080°F (582°C)
Brazing/Soldering Range	1080°F - 1120°F (582°C - 604°C)
Specific Gravity[(1)]	2.66
Density (Lbs/in^3) [(1)]	0.096
Electrical Conductivity (%IACS) [(2)]	N/A
Electrical Resistivity (Microhm-cm)	N/A

[(1)] Metal Only
[(2)] IACS = International Annealed Copper Standard

PRODUCT USES

Aluminum Flux Cored Wire – Cored with KX-200 Flux

KX718FCW is a flux cored filler metal wire used for joining aluminum and aluminum alloys. KX718FCW is the eutectic aluminum/silicon composition that melts over the narrow temperature range of 577°C to 582°C (1070°F-1080°F). Normal brazing temperature is 582°C to 604°C (1080°F-1120°F).

KX718FCW is cored with KX-200 Flux, a more reactive non-corrosive flux developed to braze magnesium containing aluminum alloys such as 6061 and 6063. The flux cored filler metal wire is commonly used on automatic brazing machines with wire feed. KX718FCW can be formed into rings and used in atmosphere furnace, torch or induction brazing processes for joining a wide variety of aluminum alloys. No post braze cleaning operations are required. The flux and its residues are non-hygroscopic and non-corrosive.

KX718FCWW is the KWX718FCW with an additional wire wound within its core. This increases the amount of alloy and decreases the amount of flux in the same sized braze wire.

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 – 0.006 in. (0.076-0.15 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. For longer joints, the gap may have to be increased to allow for base metal dissolution.

KX718 is a general purpose brazing filler metal that provides excellent joint integrity and corrosion resistance when joining aluminum and aluminum alloys.

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PROPERTIES OF BRAZED JOINTS (CONT.)

When joining dissimilar metals thought should be given to the galvanic potential between the metals to avoid potential galvanic corrosion problems. To maintain joint integrity on heat treatable aluminum alloys, the solution temperature must be below the solidus of the filler metal.

AVAILABLE FORMS

KX718FCW is available as coils, spools, or custom cut-to-length rods and engineered preforms.

SPECIFICATIONS

KX718FCW conforms to the following specifications by metal chemistry only:

- Aluminum Association (AA) 4047
- American Welding Society (AWS) A5.8/A5.8M BAlSi-4
- Aerospace Material Specification (AMS) 4185

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 30-720, 30-729, 30-730; 30-731, 30-732, 30-733 ,30-734, 30-736 ,30-737.

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 KX718FCW.

WARRANTY CLAUSE

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