

HANDY ONE[®] AL 718 CX718FCW, CX718FCWW

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 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

CX718FCW is a flux cored filler metal wire used for joining aluminum and aluminum alloys. CX718FCW 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° to 604°C (1080°F-1120°F).

CX718FCW is cored with CX-60 Flux, a more reactive low melt non-corrosive flux developed to braze magnesium containing aluminum alloys such as 6061 and 6063. The low flux activation temperature prepares surfaces to be free of oxides early in the heating cycle providing efficiency of heavy oxide removal and immediate conduction of heat between base metal and filler alloy, resulting in faster braze. The flux cored filler metal wire is commonly used induction and torch braze applications or where speed of braze is considered. The flux cored filler metal wire is commonly used on automatic brazing machines with wire feed. CX718FCW 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.

CX718FCW replaces the use of flux and Al718 braze rings. Cleanliness of assembly area is enhanced due to the minimum amount of flux use.

CX718FCW is also a substitute where corrosive flux alloy paste is in use for torch application. Waste water treatment is eliminated.

CX718FCWW is the CWX718FCW 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.

AVAILABLE FORMS

Flux cored wire and preforms. Two grades of non-corrosive flux are available for the flux cored product:

1. 50:50 ratio Cs based flux: lower melting flux for shorter heating cycles
2. 60:40 ration Cs based flux: slightly higher melting flux with longer life for extended heating cycles

SPECIFICATIONS

CX718FCW conforms to the following specifications by metal chemistry only:

- American Welding Society (AWS) A5.8 BAISi-4
- QQ-B-655 (FS-BAISi-4)
- Alcoa 718
- AMS 4185
- AA 4047

APPLICABLE PRODUCT CODE(S)

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

- 50:50 ratio Cs based flux: 30-740.
- 60:40 ration Cs based flux: 30-742; 30-743; 30-744, 30-745, 30-746, 30-750.

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 CX718FCW.

WARRANTY CLAUSE

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