

CDA 681

Bronze Brazing Alloy

NOMINAL COMPOSITION

Copper	58.0% ± 2.0%
Zinc	Remainder
Iron	0.75% ± 0.45%
Tin	0.95% ± 0.15%
Manganese	0.01% - 0.50%
Lead	0.05%
Aluminum	0.01%
Silicon	0.04% - 0.15%
Other Elements (Total)	0.50% Max

PHYSICAL PROPERTIES

Color	Brass Yellow
Melting Point (Solidus)	1590°F (866°C)
Flow Point (Liquidus)	1630°F (888°C)
Brazing Temperature Range	1670°F - 1750°F (910°C - 954°C)
Specific Gravity	8.07
Density (Lbs /in ³)	0.292
Electrical Conductivity (%IACS) ⁽¹⁾	24.0
Electrical Resistivity (Microhm-cm)	7.18

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

CDA 681 is a low fuming bronze filler metal used for brazing of ferrous and non-ferrous alloys such as steel and copper. This alloy is typically used where close fit up cannot be maintained and high brazing temperatures are permissible.

BRAZING CHARACTERISTICS

CDA 681 has good wetting characteristics on ferrous and non-ferrous materials, particularly steels and coppers. Maximum strength and joint integrity are obtained where joint clearance falls within the range of 0.003 in. - 0.005 in. per side. Handy® Flux Hi-Temp should be used in conjunction with this alloy. Heating methods include torch, induction, and furnace.

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.

AVAILABLE FORMS

Wire, engineered preforms, specialty preforms per customer specification.

SPECIFICATIONS

CDA 681 alloy conforms to the following specifications:

- Unified Numbering System (UNS) C68100
- American Welding Society (AWS) A5.8/A5.8M RBCuZn-C
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 RBCuZn-C
- International Organization for Standardization (ISO) 17672 Cu 681

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: A00000368, Legacy Codes: 60-681, CDA681.

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 CDA 681.

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