

SILVALOY[®] 452 FLUX COATED ROD **(BRAZE[™] 452 FLUX COATED)**

GENERAL DESCRIPTION

Silvaloy 452 Flux Coated Rod consists of a .062 in diameter filler rod that is coated with a precise coating of flux to a final diameter of 0.125 in. This product is available in rods for hand feed applications.

Some of the primary advantages of coated products include:

- It simplifies the brazing process by eliminating the manual fluxing operation; this also reduces flux exposure to your brazing personnel.
- Joint quality and throughput can be improved due to the consistent application of flux and filler metal.
- Reduces heating time and secondary post braze operations, increasing productivity and throughput
- Improved strength due to a reduction in flux inclusions at the joint interface
- Reduces the flux in your wastewater effluent by as much as 50-75%
- Multiple formulations exist for a variety of base metals, joint designs and heating methods.

NOMINAL COMPOSITION

Silver	45.0% ± 1.0%
Copper	27.0% ± 1.0%
Zinc	25.0% ± 2.0%
Tin	3.0% ± 0.5%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Pale Yellow
Melting Point (Solidus)	1185°F (640°C)
Flow Point (Liquidus)	1260°F (680°C)
Brazing Temperature Range	1260°F - 1500°F (680°C - 815°C)
Specific Gravity	9.20
Density (Troy oz/in ³)	4.85
Electrical Conductivity (%IACS) ⁽¹⁾	18.0
Electrical Resistivity (Microhm-cm)	9.60

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Silvaloy 452 is a general purpose, low temperature filler metal used in cadmium-free brazing applications. It offers an excellent compromise between low melting point and moderate silver content. For improved corrosion resistance in stainless steel joints, use an alloy such as Silvaloy 505, which contains a small amount of nickel.

BRAZING CHARACTERISTICS

Silvaloy 452 is a free-flowing, low temperature filler metal commonly used as a replacement of cadmium-bearing filler metals of similar silver content. This alloy is best suited for narrow gap applications (0.001 in. - 0.005 in. radial joint clearance).

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. Butt joints in the listed metals at room temperature indicate the following typical results:

	Tensile Strength (lbs/in ²)	Elongation (% in 2 in.)
Copper	28,000 - 33,000	25.0 - 35.0
Brass	35,000 - 45,000	15.0 - 30.0
Low Carbon Steel	55,000 - 65,000	8.00 - 13.0
304 Stainless Steel	80,000 - 85,000	2.00 - 5.00

AVAILABLE FORMS

Silvaloy 452 Flux Coated Rods are available in the following sizing and packaging:

- .062" Dia (alloy) x 18" x 8 rods-Plastic Tube (P/N 98100)
- .062" Dia (alloy)x 18" x 3 rods-Plastic Tube (P/N 98102)

SPECIFICATIONS

Silvaloy 452 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BAg-36

APPLICABLE PRODUCT CODE(S)

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

Distribution P/N: 98100, 98102.

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 Silvaloy 452 Flux Coated Rod.

WARRANTY CLAUSE

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