

SILVALOY® 402
(BRAZE™ 402, SILVALOY® A40T)

NOMINAL COMPOSITION

Silver	40.0% ± 1.0%
Copper	30.0% ± 1.0%
Zinc	28.0% ± 2.0%
Tin	2.0% ± 0.5%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Pale Yellow
Melting Point (Solidus)	1200°F (650°C)
Flow Point (Liquidus)	1310°F (710°C)
Brazing Temperature Range	1320°F - 1550°F (715°C - 845°C)
Specific Gravity	8.80
Density (Troy oz/in ³)	4.64
Electrical Conductivity (%IACS) ⁽¹⁾	18.0
Electrical Resistivity (Microhm-cm)	9.60

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Silvaloy 402 is a good general purpose, cadmium-free intermediate temperature brazing filler metal for joining steels, copper, copper alloys and nickel alloys.

BRAZING CHARACTERISTICS

Silvaloy 402 is a free-flowing, intermediate temperature filler metal and as such is a good substitute for cadmium-bearing filler metals with similar silver contents. The material is best suited for narrow gap situations (0.001"-0.005" radial joint clearance). Handy® Flux, or Handy® Flux Type D or Handy® Flux Type B-1 should be used with this filler metal.

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, have been tested at room temperature with the following average 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

Wire, engineered preforms, specialty preforms per customer specification.

SPECIFICATIONS

Silvaloy 402 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BAg-28
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BAg-28
- International Organization for Standardization (ISO) 17672 Ag 140
- British Standard (BS) EN 1044 Ag 105

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: A00000045, Legacy Codes: 32-402, 23895.

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 402.

WARRANTY CLAUSE

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