

SILVALOY[®] 450 (BRAZE[™] 450, SILVALOY[®] A45)

NOMINAL COMPOSITION

Silver	45.0% ± 1.0%
Copper	30.0% ± 1.0%
Zinc	25.0% ± 2.0%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Yellow White
Melting Point (Solidus)	1225°F (663°C)
Flow Point (Liquidus)	1370°F (743°C)
Brazing Temperature Range	1370°F - 1550°F (743°C - 843°C)
Specific Gravity	8.97
Density (Troy oz/in ³)	4.73
Electrical Conductivity (% IACS) ⁽¹⁾	19.0
Electrical Resistivity (Microhm-cm)	9.08

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Silvaloy 450 has been used for brazing of tubular assemblies in the ship construction industry. Other applications may include brazing of musical brass instruments, brass lamps, aircraft engine oil coolers. Silvaloy 450 is a general purpose, brazing filler metal for use where cadmium free filler metal is required.

BRAZING CHARACTERISTICS

Silvaloy 450 is an intermediate temperature cadmium free silver brazing filler metal with sufficient melting range (145°F/80°C) to properly braze joints with the range of fits encountered in commercial tubing and fittings. It has a slight tendency to liquate (i.e. separate into high and low melting constituents) if heated slowly through its melting range.

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. Lap joints have been tested and brazed for tensile strength at room temperature, on the listed metals, with the following results:

	Tensile Strength (lbs/in ²)	Elongation (% in 2 in.)
Cold-Rolled Steel	60,000 - 75,000	5.00 - 25.0

AVAILABLE FORMS

Wire, strip, engineered preforms, specialty preforms per customer specification, powder and paste.

SPECIFICATIONS

Silvaloy 450 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BAg-5
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BAg-5
- Federal Specification QQ-B-654 BAg-5
- International Organization for Standardization (ISO) 17672 Ag

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: A00000019, Legacy Codes: 32-450, 6189, 35560.

Distribution P/N: 98000, 98001, 98002, 98004, 98005, 98006, 98007.

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 450.

WARRANTY CLAUSE

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