

SILVALOY[®] 400
(BRAZE[™] 400, SILVALOY[®] A40)

NOMINAL COMPOSITION

Silver	40.0% ± 1.0%
Copper	36.0% ± 1.0%
Zinc	24.0% ± 2.0%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Light Yellow
Melting Point (Solidus)	1235°F (670°C)
Flow Point (Liquidus)	1415°F (770°C)
Brazing Temperature Range	1415°F - 1515°F (770°C - 824°C)
Specific Gravity	8.93
Density (Troy oz/in ³)	4.71
Electrical Conductivity (%IACS) ⁽¹⁾	19.7
Electrical Resistivity (Microhm-cm)	8.75

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Silvaloy 400 is a general purpose, intermediate temperature brazing filler metal for use on copper, brass, nickel-silver, bronze and other nonferrous alloys as well as mild steel, stainless steel, nickel and Monel metal.

BRAZING CHARACTERISTICS

Silvaloy 400 is an intermediate temperature cadmium free silver brazing filler metal having a fairly long (180°F/100°C) melting range. This long melting range is helpful when wide gap joints are brazed and is useful in producing large joint fillets to reduce the notch effect on stressed assemblies. Where the higher brazing temperature and characteristics of this alloy are permissible, the lower silver content affords a savings. Handy[®] Flux is recommended for use with this alloy.

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.

	Tensile Strength (lbs/in ²)	Elongation (% in 2 in.)
Copper	25,000 - 30,000	7.00 - 12.2
Brass	30,000 - 40,000	10.0 - 25.0
Nickel Silver	25,000 - 30,000	7.00 - 12.5
18-8 Stainless Steel	75,000 - 95,000	2.00 - 5.00

CORROSION RESISTANCE

Corrosion tests have been conducted on Silvaloy 400 with the following results:

Solution	Test Temp.	Conditions	Loss in Weight Mgs/dcm ² /Day
Fresh, unpasteurized milk	50°F (10°C)	Aerated Solution	1.21
5% Sulphuric Acid	Room	Coupled with nickel sheet in aerated solution	237 (brazo alloy) 497 (nickel)
Concentrated Hydrofluoric Acid	Room	Constant Immersion	173

SPECIFICATIONS

Silvaloy 400 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 32-400, 273.

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 400.

WARRANTY CLAUSE

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