LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

SILVALOY® 351
(BRAZE™ 351, SILVALOY® A35)

NOMINAL COMPOSITION

Silver	35.0% ± 1.0%
Copper	32.0% ± 1.0%
Zinc	33.0% ± 2.0%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Yellow
Melting Point (Solidus)	1265°F (685°C)
Flow Point (Liquidus)	1390°F (754°C)
Brazing Temperature Range	1390°F - 1545°F (754°C - 840°C)
Specific Gravity	8.67
Density (Troy oz/in^3)	4.57
Electrical Conductivity (%IACS) [(1)]	19.8
Electrical Resistivity (Microhm-cm)	8.20

[(1)] IACS = International Annealed Copper Standard

PRODUCT USES

Silvaloy 351 is a general purpose, intermediate temperature brazing alloy for use on copper, brass, nickel-silver, bronze, steel and other ferrous and nonferrous alloys melting above the liquidus point of the braze alloy. Typical applications for this braze filler metal include brazing of electrical components, and brass components such as brass lamps or brass band instruments. Silvaloy 351 is applicable in variety of different applications that require high ductility and high strength joints.

BRAZING CHARACTERISTICS

Silvaloy 351 is an intermediate temperature silver brazing alloy with a fairly long (125°F/69°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 saving. Handy® Flux should be used 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. Lap joints have been brazed and tested 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	70,000 - 75,000	15.0 - 25.0

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CORROSION RESISTANCE

Similarly to other nickel free alloys, Silvaloy 351, is not resistant to interface corrosion in brazing of stainless steel with use of flux, thus it is not a preferred alloy of choice for applications involving brazing of stainless steel components.

AVAILABLE FORMS

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

SPECIFICATIONS

Silvaloy 351 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BAg-35
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BAg-35
- International Organization for Standardization (ISO) 17672 Ag 235

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: A00000315, A00000044, Legacy Codes: 32-350, 32-351, 22822.

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 351.

WARRANTY CLAUSE

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