

SILVALOY® 580 (BRAZE™ 580, SILVALOY® A58TM)

NOMINAL COMPOSITION

Silver	57.5% ± 1.0%
Copper	32.5% ± 1.0%
Tin	7.0% ± 0.5%
Manganese	3.0% ± 1.0%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	White
Melting Point (Solidus)	1120°F (605°C)
Flow Point (Liquidus)	1345°F (730°C)
Brazing Temperature Range	1345°F - 1445°F (730°C - 785°C)
Specific Gravity	9.54
Density (Troy oz/in ³)	5.03
Electrical Conductivity (%IACS) ⁽¹⁾	25.3
Electrical Resistivity (Microhm-cm)	6.81

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

Silvaloy 580 should be regarded as a special purpose material for brazing “difficult to wet” metals and alloys such as tungsten and chromium carbides. This alloy is also used for brazing assemblies that will be coated by means of vacuum deposition processes, such as Titanium Nitride (TiN) coating. Wetting studies show that this alloy exhibits excellent wetting in vacuum brazing of high manganese stainless steels. For reference consult “Vacuum Brazing of High Manganese Stainless Steel” article by W. S. Bennett and R.F. Hillyer, Welding Journal (Vol 53, No. 11, Nov. 1974, P510S).

BRAZING CHARACTERISTICS

Silvaloy 580 is a free flowing, intermediate temperature, cadmium-free silver brazing filler that has excellent wetting characteristics on certain base metals that are difficult to braze with standard braze filler metals. Typical of these base metals are chromium and tungsten carbides. Unlike some other manganese containing brazing filler metals, Silvaloy 580 does not tend to produce porous fillets. Silvaloy 580 contains no zinc or cadmium – high vapor pressure elements – and will not outgas during vacuum deposition coating processes.

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.

AVAILABLE FORMS

Strip, engineered preforms, specialty preforms per customer specification.

SPECIFICATIONS

Silvaloy 580 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: A00000317, Legacy Codes: 32-580, 34942.

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 580.

WARRANTY CLAUSE

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