



Technical Data Sheet

HANDY ONE[®] SILVALOY 340 (HANDY ONE[®] BRAZE[™] 340)

This proprietary family of brazing & soldering products eliminates the need for a separate fluxing operation, which can result in a significant increase in productivity while minimizing flux exposure to your personnel and plant equipment.

GENERAL DESCRIPTION

Handy One is a trademark for a family of flux-cored brazing materials that offers numerous advantages compared to traditional metal joining methods. It consists of a filler metal in strip form that is rolled around a powdered flux. Formulations currently exist for silver (and aluminum based) brazing filler metals and it is available on spools, coils or rods for wire feed applications and as preformed rings and shapes for automated production lines.

Some of the primary advantages of Handy One cored wire include:

- It simplifies the brazing process by eliminating the manual fluxing operation; this also reduces flux exposure to your brazing personnel.
- Joint quality and throughput can be improved due to the consistent application of flux and filler metal.
- Reduces heating time and secondary post braze operations, increasing productivity and throughput
- Improved strength due to a reduction in flux inclusions at the joint interface
- Reduces the flux in your wastewater effluent by as much as 75%
- Multiple formulations exist for a variety of base metals, joint designs and heating methods.

These materials will join ferrous and non-ferrous metals including steel, stainless steel, copper, brass and bronze.

NOMINAL COMPOSITION

Silver	34.0% ± 1.0%
Copper	36.0% ± 1.0%
Zinc	27.5% ± 2.0%
Tin	2.5% ± 0.5%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Pale Yellow
Melting Point (Solidus)	1166°F (630°C)
Flow Point (Liquidus)	1346°F (730°C)
Brazing Temperature Range	1346°F - 1500°F (730°C - 815°C)
Specific Gravity	8.73
Density (Troy oz/in ³)	4.60
Electrical Conductivity (%IACS) ⁽¹⁾	N/A
Electrical Resistivity (Microhm-cm)	N/A

⁽¹⁾ IACS = International Annealed Copper Standard



PRODUCT USES

Silvaloy 340 is a good general purpose low temperature brazing filler metal for use in cadmium-free brazing applications, such as air conditioning and refrigeration which involve the joining of steels, copper, copper alloys and nickel alloys.

BRAZING CHARACTERISTICS

Silvaloy 340 is a free-flowing, low temperature filler metal with excellent wetting characteristics of most ferrous and non-ferrous base metals, and is a good substitute for cadmium-bearing filler metals with similar silver content. The material is best suited for narrow gap situations (0.001" - 0.005" radial joint clearance).

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.

PROPERTIES OF BRAZED JOINTS

Lucas-Milhaupt, Inc has several different fluxes available depending upon the material form (wire or preformed shape) as well as base metals and heating methods utilized.

- **Restrictive Flux** – protects the parts being joined, yet restricts the flow of the filler metal, enabling the building of fillets and minimizing post braze secondary operations. This flux is recommended for most hand feed or wire feed applications. Flux content is typically 12% ($\pm 3\%$) of the total volume.
- **Free Flowing Flux** – This very fluid flux provides excellent protection of your parts and facilitates filler metal flow. Recommended for preformed ring applications, it is typically 18% ($\pm 3\%$) of the total volume.
- **Heat Resistant Flux** – Boron modified flux for large mass assemblies or long heating cycles. It is also typically 18% ($\pm 3\%$) of the total volume and also recommended for preformed ring applications.

Please Note: Flux percentages may vary depending upon material size and finished form, please contact Lucas-Milhaupt's Technical Services Department for specific product and process parameters.

AVAILABLE FORMS

Wire, rod, engineered preforms, specialty preforms per customer specification.

SPECIFICATIONS

Silvaloy 380 alloy conforms to the following specifications:

- NF EN 1044 AG 106
- International Standard Organization (ISO) 3677 B-Cu36AgZnSn-630/730

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 30-340; 30-341; 30-342; 30-343; 30-344



Technical Data Sheet

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 Handy One Silvaloy 340.

WARRANTY CLAUSE

Lucas-Milhaupt, Inc. believes the information contained herein to be reliable. However, the information is given by Lucas-Milhaupt, Inc. without charge and the user shall use such information at its own discretion and risk. This information is provided on an "AS IS" AND "AS AVAILABLE" basis and Lucas-Milhaupt, Inc. specifically disclaims warranties of any kind, either express or implied, including, but not limited to, warranties of title or implied warranties of merchantability or fitness for a particular purpose. No oral advice or written or electronically delivered information given by Lucas-Milhaupt, Inc. or any of its officers, directors, employees, or agents shall create any warranty. Lucas-Milhaupt, Inc. assumes no responsibility for results obtained or damages incurred from the use of such information in whole or in part.