LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

HANDY ONE® SILVALOY 560
(HANDY ONE® BRAZE™ 560)

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	56.0% ± 1.0%
Copper	22.0% ± 1.0%
Zinc	17.0% ± 2.0%
Tin	5.0% ± 0.5%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	White
Melting Point (Solidus)	1145°F (618°C)
Flow Point (Liquidus)	1205°F (652°C)
Brazing Temperature Range	1205°F - 1400°F (652°C - 760°C)
Specific Gravity	9.42
Density (Troy oz/in^3)	4.96
Electrical Conductivity (%IACS) [(1)]	8.32
Electrical Resistivity (Microhm-cm)	20.8

[(1)] IACS = International Annealed Copper Standard

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PRODUCT USES

Silvaloy 560 is a silver-based brazing alloy used for ferrous and non-ferrous alloys in joints requiring a low temperature, cadmium-free alloy, as in food handling equipment. For improved corrosion resistance in joints on stainless steel, use alloys containing small amounts of nickel, such as Silvaloy 630 or Silvaloy 505.

BRAZING CHARACTERISTICS

Silvaloy 560 is a low temperature, free-flowing brazing filler metal with a slight tendency to liquate (i.e. separate into low and high 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.

	Tensile Strength (lbs/in^2)
Low Carbon Steel	40,000 - 50,000
Copper	25,000 - 30,000
Brass	30,000 - 40,000

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% (±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% (±3%) of the total volume.

- **Heat Resistant Flux** – Boron modified flux for large mass assemblies or long heating cycles. It is also typically 18% (± 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.

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SPECIFICATIONS

Silvaloy 560 alloy conforms to the following specifications:

- American Welding Society (AWS) A5.8/A5.8M BAg-7
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BAg-7
- Society of Automotive Engineers (SAE) / AMS 4763
- Federal Specification QQ-B-654 BAg-7

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 30-560; 30-561; 30-562; 30-563; 30-564; 30-565

Distribution P/N: 99084

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 560.

WARRANTY CLAUSE

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