



235 Kilvert Street  
Warwick, RI 02886

A World-Class Quality Partner  
ISO 9001:2008  
Registered

## PRODUCT: **SILVALITE**

### NOMINAL COMPOSITION:

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Silver	1.50 ± 0.20%
Phosphorus	6.80 ± 0.20%
Copper	Balance
Total Other Elements	0.15% Max.

### PHYSICAL CONSTANTS:

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Solidus	1190°F (643°C)
Liquidus	1470°F (799°C)
Brazing Range	1350°F-1470°F (732-799°C)
Specific Gravity	7.986
Density (lb/cu in)	0.289
Electrical Conductivity (% IACS)	5.5
Electrical Resistivity (Michroh-m-cm)	31.5
Color	Light Copper

### DESCRIPTION:

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**SILVALITE** is used for the brazing of copper and copper alloys, brass and bronze. It can also be used on silver, tungsten or molybdenum carbide. It is primarily used for the joining of copper-to-copper on vibration free joints. It is very effective for joining tight fitting copper pipe and tubing. **SILVALITE** should not be used on ferrous metals or copper alloys containing more than 10% nickel because of phosphorus embrittlement due to reactions with iron or nickel. Its melting characteristics are such that on the low end of its brazing temperature range it has “sluggish” flow characteristics which enable it to fill gaps better, making it ideal for loose-fitting joints. On the other hand, when brazing at high end of its brazing temperature range, it is very fluid, making ideal for tight-fitting joints required deep penetration. Melting of **SILVALITE** is virtually complete at 1350°F (732°C). Best results are obtained when brazing slightly above this temperature.

### PROPERTIES OF BRAZED JOINTS:

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Generally, the joint strength using **SILVALITE** will surpass the strengths of the base metals. Strength is a function of the base metals being joined, type of joint, design of joint, joint clearances and brazing procedures. The recommended maximum operating temperatures for **SILVALITE** are 300°F (continuous service) and 400°F (short time service). Corrosion resistance is satisfactory except when the joint is in contact with sulfurous atmosphere (especially at elevated temperatures).



**PRODUCT: SILVALITE - CONTINUED**

**APPLICATIONS:**

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The phosphorous content of **SILVALITE** acts as a fluxing agent and no flux is necessary when brazing copper to copper joints. However, when used with a copper alloy or one of the other brazeable metals, a brazing flux must be used to promote wetting, bonding, and flow throughout the joint. The flow point of **SILVALITE** is 1350°F (732°C).

**SAFETY INFORMATION:**

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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 **SILVALITE**.

**AVAILABLE FORMS:**

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Standard forms of **SILVALITE** are rods.

**LIABILITY-DISCLAIMER:**

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