



235 Kilvert Street
Warwick, RI 02886

A World-Class Quality Partner
ISO 9001:2000
Certified

PRODUCT: **SILVALOY[®] 5**
(AWS BCuP-3)

COMPOSITION:

Silver	5.00 wt%
Phosphorous	6.00 wt%
Copper	89.0 wt%
Total Other Elements	0.15 wt% Max

MATERIAL PROPERTIES:

Solidus	1190°F (643°C)
Liquidus	1495°F (813°C)
Brazing Range	1325-1500°F (718-816°C)
Specific Gravity	8.129
Density (toz/cu in)	4.284
Electrical Conductivity (% IACS)	9.6
Electrical Resistivity (Michroh-m-cm)	18.1
Color	Light Copper

DESCRIPTION:

SILVALOY 5 has good flow and wetting properties on copper, brass, and bronze. 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 requiring deep penetration. The phosphorous content of **SILVALOY 5** acts as a fluxing agent and no flux is necessary when brazing copper-to-copper joints. However, when used with 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 **SILVALOY 5** is 1325°F (718°C).

APPLICATIONS:

SILVALOY 5 is used for the brazing of copper and copper alloys, brass, and bronze. It is primarily used for the joining of copper-to-copper. **SILVALOY 5** should not be used on ferrous metals or alloys containing more than 10% nickel due to the formation of brittle intermetallic phosphide compounds.



PRODUCT: SILVALOY® 5 - CONTINUED
(AWS BCuP-3)

SPECIFICATIONS:

AWS A5.8	BCuP-3
ASME	BCuP-3
QQ-B-650	BCuP-3

PROPERTIES OF BRAZED JOINTS:

Generally, the joint strength using **SILVALOY 5** 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 clearance and brazing procedures. The recommended maximum operating temperature for **SILVALOY 5** 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).

AVAILABLE FORMS:

Standard forms of **SILVALOY 5** are wire, and preforms.

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 5**.

LIABILITY-DISCLAIMER:

Wolverine Joining Technologies, LLC, seeks to represent reliable information concerning the composition, properties and use of its products. The technical information provided in this publication is provided at no charge and is without guarantee, warranty or responsibility of any kind, expressed or implied.

Wolverine Joining Technologies, LLC
235 Kilvert Street
Warwick, RI 02886
401-739-9550/fax 401-739-9555
www.silvaloy.com