

LM 69-270 (70 AG/28 CU/2 TI)

NOMINAL COMPOSITION

Silver	70.0% ± 1.0%
Copper	28.0% ± 1.0%
Titanium	2.0% ± 0.50%
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Gray
Melting Point (Solidus)	1435°F (780°C)
Flow Point (Liquidus)	1472°F (800°C)
Brazing Temperature Range	1517°F - 1700°F (825°C - 927°C)
Specific Gravity	9.77
Density (Troy oz/in ³)	5.15
Electrical Conductivity (%IACS) ⁽¹⁾	N/A
Electrical Resistivity (Microhm-cm)	N/A

⁽¹⁾ IACS = International Annealed Copper Standard

PRODUCT USES

LM 69-270 can be used on any of the common metallic and non-metallic substrates. This alloy will wet ceramics, PCD, CBN, titanium, titanium base and super alloys. LM 69-270 exhibits good wetting characteristics on ceramic surfaces eliminating the metallization and plating processes. Typical applications include brazing of vacuum tubes, wave guides in electrical and electronic industry and PCD, CBN tungsten backed substrates in industrial tool applications.

BRAZING CHARACTERISTICS

LM 69-270 is generally used in a high vacuum environment. An Argon atmosphere with a dew point of -50°F or better could also be utilized. Hydrogen and nitrogen environments are not recommended due to their reactivity with titanium, forming titanium hydride and titanium nitride respectively. Below are pictures of LM 69-270 brazed in pure hydrogen, nitrogen, and in mixes of hydrogen and nitrogen:

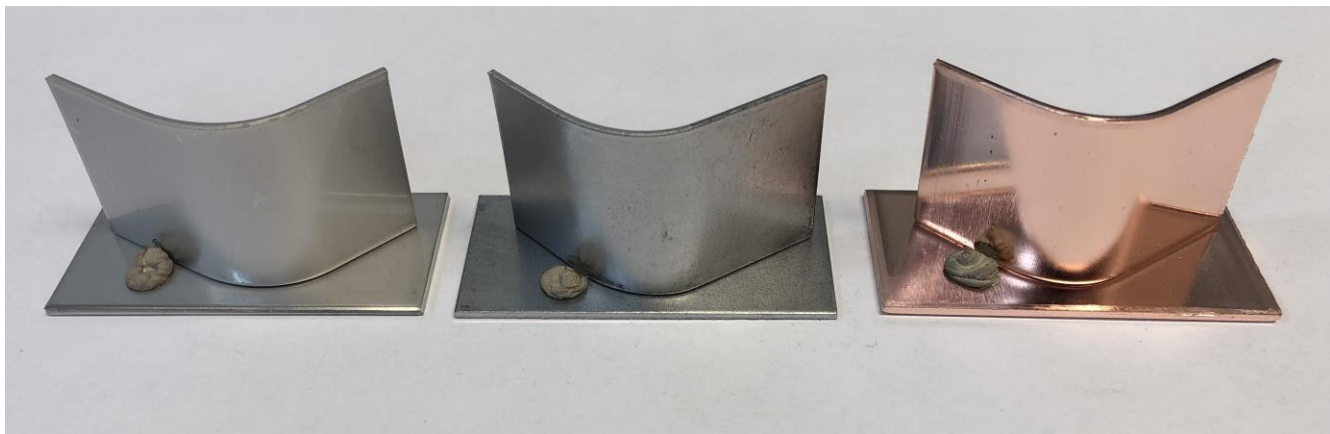


Figure 1: LM 69-270 in Pure Hydrogen Atmosphere

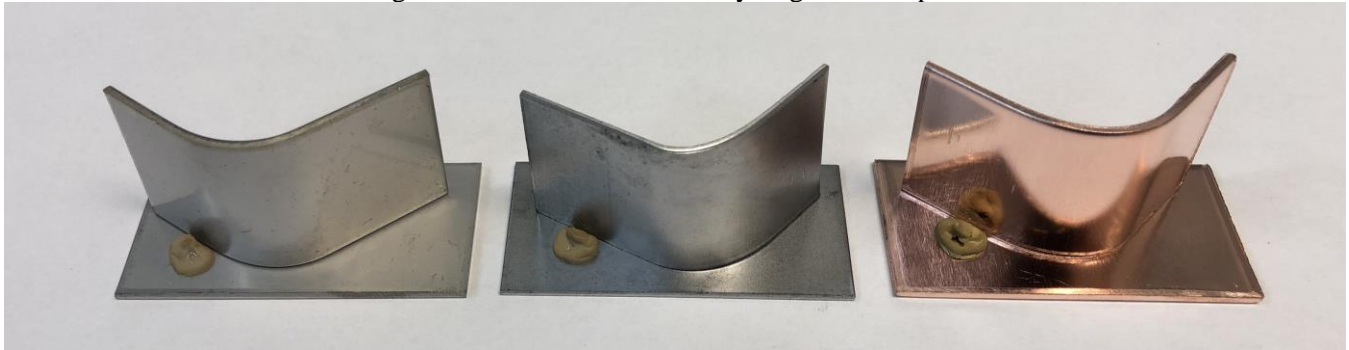


Figure 2: LM 69-270 in Pure Nitrogen Atmosphere

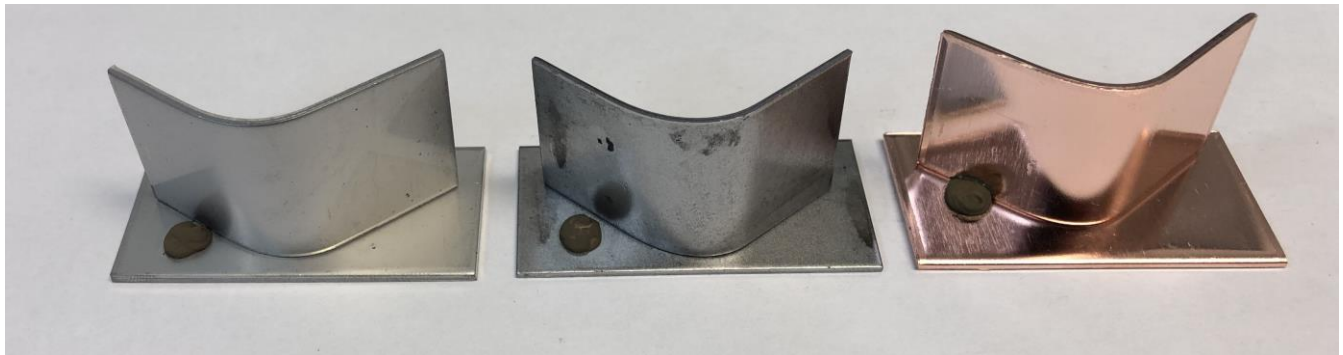


Figure 3: LM 69-270 in 25% Nitrogen 75% Hydrogen Atmosphere

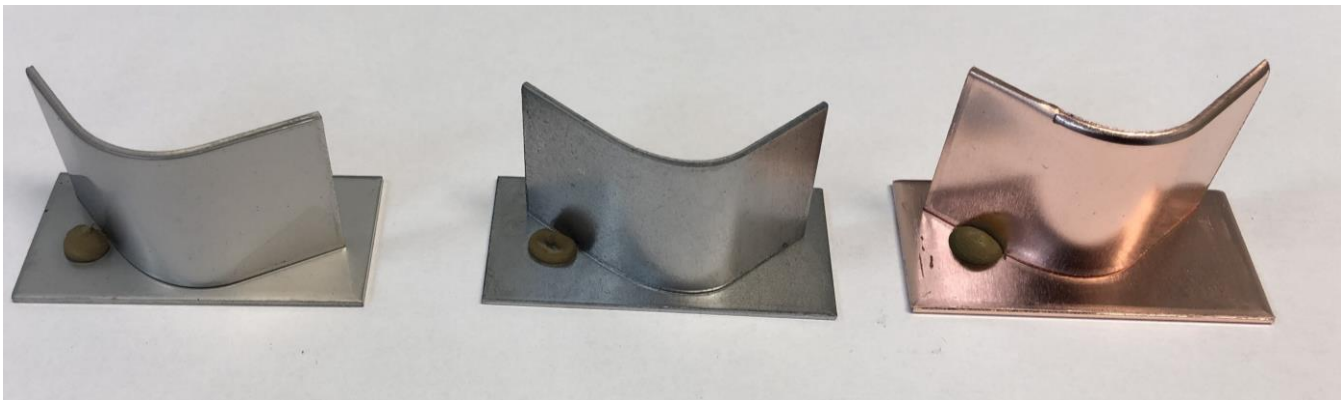


Figure 4: LM 69-270 in 75% Nitrogen 25% Hydrogen Atmosphere

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

Powder and paste.

SPECIFICATIONS

LM 69-270 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: A00000453, Legacy Code: 69-270.

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 LM 69-270.

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