LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

LM 27-697 VTG [1]

NOMINAL COMPOSITION

Silver	68.7% -70.7%
Copper	Remainder
Germanium	1.75% - 2.25%
Cobalt	0.3% ± 0.1%
Zinc	0.001% Max
Phosphorous	0.002% Max
Carbon	0.005% Max
Lead	0.002% Max
Other volatile elements [2]	0.001% Max
Volatile elements total (incl. Cd, Zn, Pb)	0.010% Max
Total non-volatile elements	0.05% Max

[1] Vacuum Tube Grade

[2] Elements with a vapor pressure higher than 10^{-7} torr at 932ºF (500ºC) such as Mg, Sb, K, Na, Li, Ti, S, Cs, Rb, Se, Te, Sr, and Ca

PHYSICAL PROPERTIES

Color	Silver White
Melting Point (Solidus)	1435°F (780°C)
Flow Point (Liquidus)	1435°F (780°C)
Brazing Temperature Range	1465°F - 1650°F (795°C - 900°C)
Specific Gravity	9.82
Density (Troy oz/in^3)	5.17
Electrical Conductivity (%IACS) [3]	N/A
Electrical Resistivity (Microhm-cm)	N/A

[3] IACS = International Annealed Copper Standard

PRODUCT USES

LM 27-697 (VTG) can be used in all types of moderate temperature vacuum systems in particular brazing of the vacuum tube assemblies in a one step braze process. This alloy is generally used to braze copper, nickel, copper-nickel alloys and stainless steel alloys in a vacuum environment without the necessity of plating of stainless steel substrates.

BRAZING CHARACTERISTICS

LM 27-697 is a modified silver-copper eutectic filler metal with small additions of cobalt and germanium. On either silver, nickel, or copper base alloys LM 27-697 may exhibit a decrease in fluidity and an increase in re-melt temperature, after brazing if some solution of base metal occurs in the filler metal. 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

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

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SPECIFICATIONS

LM-27-697 (VTG) conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 27-697.

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 27-697 (VTG).

WARRANTY CLAUSE

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