LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

HI-TEMP® 548

NOMINAL COMPOSITION

Copper	55.0% ± 1.0%
Zinc	Balance
Nickel	6.0% ± 0.5%
Manganese	4.0% ± 0.5%
Silicon	0.10% – 0.40%
Other Elements (Total)	0.50% Max

PHYSICAL PROPERTIES

Color	Light Yellow
Melting Point (Solidus)	1615°F (880°C)
Flow Point (Liquidus)	1685°F (920°C)
Brazing Temperature Range	1685°F - 1900°F (920°C - 1040°C)
Specific Gravity	8.12
Density (Lbs/in^3)	0.293
Electrical Conductivity (%IACS) [(1)]	6.60
Electrical Resistivity (Microhm-cm)	26.3

[(1)] IACS = International Annealed Copper Standard

PRODUCT USES

Hi-Temp 548 is a modified nickel silver filler metal primarily used to join tungsten carbide to steel. Brazing is often combined with heat treatment of the steel tool bits. The filler metal has good high temperature strength and toughness.

BRAZING CHARACTERISTICS

This filler metal exhibits excellent flow and wetting characteristics on tungsten carbides and tool steels, especially when induction brazed. The material also has good gap filling properties and plasticity at brazing temperature while being resistant to the joint cracking tendencies of the standard nickel-silver materials. For induction, torch or furnace brazing use Handy Hi-Temp® Boron Modified Flux. Suggested joint clearances at brazing temperature for Hi-Temp 548 are from 0.002 in. – 0.005 in. (0.05 mm – 0.12 mm).

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. Lap joints, in the listed metals, have been tested at room temperature with the following typical results:

	Tensile Strength (lbs/in^2)
Tungsten Carbide/SAE 8740 Steel	28,000 - 30,000

AVAILABLE FORMS

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

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SPECIFICATIONS

Hi-Temp 548 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 77-548

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 Premabraze 548.

WARRANTY CLAUSE

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