LucasMilhaupt®
A Handy & Harman Company
Global Brazing Solutions®

Technical Data Sheet

HI-TEMP® 801

NOMINAL COMPOSITION

Cobalt	Remainder
Chromium	19.0 % ± 1.0%
Nickel	17.0 % ± 1.0%
Silicon	8.0 % ± 0.5%
Tungsten	4.0 % ± 0.5%
Carbon	0.40 % ± 0.05%
Iron	1.0 % Max
Boron	0.80 % ± 0.1%
Phosphorus	0.02 % Max
Sulfur	0.02 % Max
Aluminum	0.05 % Max
Titanium	0.05 % Max
Selenium	0.005 % Max
Cadmium	0.01 % Max
Lead	0.1% Max
Other Elements (Total)	0.5 0% Max

PHYSICAL PROPERTIES

Color	Iron Gray
Melting Point (Solidus)	2050°F (1120°C)
Flow Point (Liquidus)	2100°F (1150°C)
Brazing Temperature Range	2100°F - 2250°F (1150°C - 1230°C)
Specific Gravity	6.93
Density (Lbs/in^3)	.25
Electrical Conductivity (%IACS) [(1)]	N/A
Electrical Resistivity (Microhm-cm)	N/A

[(1)] IACS = International Annealed Copper Standard

PRODUCT USES

Hi-Temp 801 is a high temperature cobalt based brazing alloy used in elevated temperature strength and oxidation applications. Typically this alloy is used for joining super alloys, corrosion and heat resistant steels and alloys requiring good joint strength at high temperatures while maintaining good corrosion and oxidation resistant characteristics. Due to its composition, this alloy is typically used in applications such as cobalt based jet engine component repair or where low erosion on honeycomb structures is desired.

BRAZING CHARACTERISTICS

Hi-Temp 801 has very good flow characteristics on honeycomb structures and other thin wall assemblies due to the low erosion nature of the alloy. If heated quickly through its melting range, Hi-Temp 801 has shown the ability to flow through narrow clearances and provide adequate joints when brazed in a controlled/vacuum atmosphere.

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PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon numerous factors including base metal properties, joint design, and metallurgical interaction between the base metal and the filler metal. When brazing in a controlled atmosphere or vacuum, the recommended radial joint clearance is 0.00 in. - 0.002 in. (0.00 mm - 0.051 mm.).

AVAILABLE FORMS

Powder and paste.

SPECIFICATIONS

Hi-Temp 801 alloy conforms to the following specifications: AWS A5.8 BCo-1

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 77-801.

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 Hi-Temp 801.

WARRANTY CLAUSE

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