

Data Sheet

Icronibsi[®] - 7 (AMS 4777, BNi-2)

Description:

High-purity Melt-Spun Foil alloy of nickel, chromium, silicon, boron and iron, for vacuum brazing.

Nominal composition by weight: **82.3% Ni, 7.0% Cr, 3.2% Si, 3.0% Fe, and 3.2% B**

Prime features:

- Consistent wetting and melting behaviour
- Structural stability over wide temperature range

Typical applications:

- Heat exchanger assemblies
- Aero engine compressor vanes, stators and hush kits
- Bonding diamond compounds to tungsten carbide cutting tools

Physical Properties*

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|--|--|
| Liquidus Temperature | 1024 °C 1875 °F |
| Solidus Temperature | 969 °C 1776 °F |
| Coefficient of Thermal Expansion (CTE) | |
| Thermal Conductivity (Calculated) | 4.6 x 10 ⁻⁶ /C, for 20 – 500 °C 2.66 x 10 ⁻⁶ /°F, for 68 – 932 °F |
| Density | 7.46 Mg/m ³ 0.27 lb/in ³ |
| Yield Strength (0.2% offset) | |
| Tensile Strength | |
| Elongation (2in/50mm gage section) | |
| Electrical Resistivity | 1.65 x 10 ⁻⁹ ohm·m |
| Electrical Conductivity | 0.608 x 10 ⁶ /ohm·m |
| Vapor Pressure (Calculated) | |
| Recommended Brazing Temperatures | 1055 – 1085 °C |
| Recommended Brazing Atmospheres | 10 ⁻⁵ mm Hg, inert gas |

* Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose whatsoever.

Impurity Limits

| | |
|----|------------------|
| Zn | less than 0.001% |
| Cd | less than 0.001% |
| Pb | less than 0.002% |
| P | less than 0.002% |
| C | less than 0.01% |

All other metallic impurities having a vapor pressure higher than 10⁻⁷ mm Hg at 500 °C are limited to 0.002% each. Impurities having a vapor pressure lower than 10⁻⁷ mm Hg at 500 °C are limited to a total of 0.075%. (This applies to all forms except powder and extrudable paste.)

Supplied as:

- Strip foil up to 250mm [10in] wide
- Preforms
- Typical thickness 0.05mm [0.0002in]

The determination as to the adaptability of any Wesgo materials to the specific needs of the Buyer is solely the Buyer's prerogative and responsibility. All technical information, data and recommendations are based on tests and accumulated experience data, which Wesgo believed to be reliable. However, the accuracy and completeness thereof are not guaranteed.