

Data Sheet

Gapasil[®] 9

Description:

High-purity silver, palladium and gallium alloy for vacuum brazing.
Nominal composition by weight: **82% Ag, 9% Pd** and **9% Ga**

Prime Features:

- Ductile, corrosion resistant.
- Joins Ti to Ti and Ti to Stainless steel

Typical Applications:

- Dissimilar metallic interface fittings

Suggested base materials:

- Kovar, Copper, Nickel, Carbon/low alloy & Tool/high speed steel, Titanium, Stainless steel, Refractory, Tungsten carbide

Physical Properties*

| | |
|--|---|
| Liquidus Temperature | 880 °C |
| | 1616 °F |
| Solidus Temperature | 845 °C |
| | 1533 °F |
| Coefficient of Thermal Expansion (CTE) | |
| Thermal Conductivity (Calculated) | 55.6 W/m·K |
| | 31.7 BTU/ft·h· °F |
| Density | 10.3 Mg/m ³ |
| | 0.372 lb/in ³ |
| Yield Strength (0.2% offset) | 118 MPa |
| | 17.1 x 10 ³ lb/in ² |
| Tensile Strength | 286 MPa |
| | 4.1 x 10 ³ lb/in ² |
| Elongation (2in/50mm gage section) | 41% |
| Electrical Resistivity | 136 x 10 ⁻⁹ ohm·m |
| Electrical Conductivity | 7.4 x 10 ⁶ /ohm·m |
| Vapor Pressure (Calculated) | |
| Recommended Brazing Temperatures | 900 – 925 °C |
| Recommended Brazing Atmospheres | 10 ⁻⁵ mm Hg or 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:

- Foil
- Wire
- Powder
- Extrudable paste
- Preforms

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.