

Technical data

Gold bearing brazing filler metal

OrobrazTM 950 - Gold bearing brazing filler metal

Product description

OrobrazTM 950 is a high purity gold bearing brazing filler metal. It is extensively used in aerospace components and thermionic valve / vacuum tube devices as well as in other specialised applications. OrobrazTM 950 exhibits excellent high temperature strength up to 500°C and oxidation resistance up to 800°C. Because of the alloy's elevated temperature properties it is used extensively in the manufacture of components required to operate at high temperature, for example turbojet aero-engine components. The alloy produces small exceptionally smooth fillets at the joint edges that do not disturb the aerodynamic gas flow in aero-engine components. OrobrazTM 950 is suitable for vacuum furnace brazing, as it contains no volatile elements. Grade 1 OrobrazTM 950 has impurity levels which make it suitable for brazing components that operate at elevated temperatures in ultra high vacuum, such as vacuum tube devices. It is also suitable for step brazing in complex assemblies. OrobrazTM 950 also offers good corrosion resistance in many chemical environments and its joints are resistant to interfacial crevice corrosion on stainless steels in aqueous service environments. These properties have been put to use in the paper making industries for example. Typical joint gaps are in the range of 0.25-0.1 mm depending on parent metals, joint configuration and brazing methods.

Composition: 82% Au, 18% Ni

Conforms to: BS EN 1044 1999 AU105, AU105V Grade 1 (formerly BS 1845 (1984) AU5 & AU5V) AMS 4787, AWS A5.8 BAu-4 & BVAu-4 & Rolls Royce MSRR9500 / 118

Melting range: 950°C

Impurity limits for AU105 (%by mass, max.): - Al 0.0010, P 0.008, Ti 0.002, Zr 0.002 total of all impurities 0.15%.

Impurity limits for AU105V Grade 1 (%by mass, max.): - C 0.0005, Cd 0.001, P 0.002, Pb 0.002, Zn 0.001, Mn 0.001, In 0.002, all other elements where vapour pressure at 500°C is >1.3x10⁻¹⁰ bar 0.00 each, limited to 0.010% total (inc. Cd, Pb and Zn).

Uses for this product

Typical applications are for brazing vacuum tube / thermionic valve devices. Gold-copper OrobrazTM filler metals exhibit good wetting on copper, nickel, iron, cobalt, molybdenum, niobium, tungsten and their alloys, and due to their good ductility are also useful for brazing metallised ceramics.

Conditions for use

Gold-copper OrobrazTM filler metals are most commonly brazed in reducing atmosphere furnace brazing operations, but may also be applied using vacuum brazing techniques. Under these conditions no flux is used.

Product availability

All forms are manufactured to order

Wire	0.25mm to 3mm
Foil	Widths from 2mm to 100mm, 0.08mm to 0.5mm thick
Braze-pastes	On request
Powder	Various particle sizes

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Johnson Matthey PLC, Platinum Group Metal Services, Orchard Road, Royston, Herts, SG8 5HE, UK Rev.27/01/25.