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SilverAlloy A-60Ti-Active

Introduction

Aufhauser SilverAlloy A-60Ti-Active is an active, brazing alloy that promotes wetting and good capillary action on several surfaces that would otherwise be difficult to join by brazing. The active components of this alloy promote wetting on, for example, ceramics, aluminum oxides (sapphire), diamond.

Applications

Brazing with Aufhauser SilverAlloy A-60Ti-Active provides a reliable method of bonding ceramics, graphite, diamond, tungsten carbide, copper, kovar, nickel, nickel alloys, carbon steels, stainless steels.

Nominal Composition, wt.%

Ag	Cu	In	Ti
60.0	24.0	14.0	2.0

Impurity limits, wt.%

Zn	Cd	Pb	P	C
< 0.001	< 0.001	< 0.002	< 0.002	< 0.010

Physical Properties *

Parameter	In US units	In metric units
Solidus temperature	1148 °F	620 °C
Liquidus temperature	1328 °F	720 °C
Recommended brazing temperature	1328 – 1580 °F	720 – 860 °C
Recommended brazing atmosphere	10 ⁻⁵ mm Hg vacuum or inert gas	10 ⁻⁵ mm Hg vacuum or inert gas
Density	4.90 troy ounce/in ³	9.29 g/cm ³
Thermal expansion coefficient	10.1 x 10 ⁻⁶ /°F (R.T. -752°F)	18.2 x 10 ⁻⁶ /°C (R.T. -400°C)
Thermal conductivity	40 BTU/ ft ² x hour x °F	70 W/m x °K
Electrical resistivity	-	10.6 x 10 ⁻⁸ ohm-m
Electrical conductivity	-	9.4 x 10 ⁶ ohm-m
Young's modulus	11 x 10 ⁶ Lb/in ²	76 GPa
Ultimate tensile strength	66 x 10 ³ Lb/in ²	455 Mpa
Yield strength (0.2% offset)	49 x 10 ³ Lb/in ²	338 Mpa
Elongation (2in/50mm gage section)	21%	21%

*The above properties apply to the alloy before it is used in the brazing process.

Supplied forms: powder, paste, wire, strip, preforms.