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SilverAlloy A-69Ti-Active

Introduction

Aufhauser SilverAlloy A-69Ti-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 and aluminum oxides (sapphire).

Applications

Brazing with Aufhauser SilverAlloy A-69Ti-Active provides a reliable method of bonding ceramic to metals (including stainless steels) as well as bonding metal oxides (like sapphire)

Nominal Composition

Ag %	Cu %	Ti %
68.8 (± 1)	26.7 (± 1)	4.5 (± 0.5)

Physical Properties *

Solidus Temperature	1435°F	780°C
Liquidus Temperature	1650°F	900°C
Density	5.0 TOz/in ³	9.4 g/cm ³
Thermal Conductivity	127 BTU h ⁻¹ ft ⁻¹ °F ⁻¹	219 W m ⁻¹ °K ⁻¹
Thermal Expansion Coefficient (R.T. - 500°C)	10.3 x 10 ⁻⁶ °F ⁻¹	18.5 x 10 ⁻⁶ °C ⁻¹
Recommended Brazing Temperature	1725 – 1775°F	940 – 968°C

Electrical Properties

Electrical Resistivity	20 Ω CM ft	34x10 ⁻⁹ Ω m
Electrical Conductivity	0.049 Ω^{-1} CM ⁻¹ ft	29 x 10 ⁶ Ω^{-1} m ⁻¹

Mechanical Properties

Young's Modulus	12 x 10 ⁶ psi	85 GPa
Poisson's Ratio	0.36	
Yield Strength	42,400 psi	292 MPa
Ultimate Tensile Strength	49,200 psi	339 MPa
Elongation (2-inch gage section)	28%	

* Aufhauser 69Ti-Active is a composite material. The above properties apply to the alloy before it is used in the brazing process.