

SilverAlloy A-63Ti active

◆ INTRODUCTION

Aufhauser SilverAlloy A-63Ti-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. It wets and bonds to nearly all metallic and non-metallic surfaces (such as oxide, nitride, carbide) and produces strong joints, dependent upon adequate treatment of ceramic seal faces.

◆ APPLICATIONS

Aufhauser SilverAlloy A-63Ti offers highly reliable bonding between ceramic and metal for both oxide and non-oxide ceramics.

◆ CHEMICAL COMPOSITION (wt %)

<u>Silver</u>	<u>Copper</u>	<u>Titanium</u>
63	35 (balance)	1.75



◆ PHYSICAL PROPERTIES

Liquidus temperature:	1500°F (815°C)
Solidus temperature:	1435°F (780°C)
Recommended brazing temperature:	1526-1562°F (830-850°C)
Density:	5.2 toz/in ³ (9.8 g/cm ³)
Thermal conductivity:	104 BTU/ ft/hr/°F (180 W/m·°K)
Thermal Expansion:	10.3 x 10 ⁻⁶ /°F (18.5 x 10 ⁻⁶ /°C)

◆ Recommended Furnace Atmosphere

- Vacuum (10⁻⁵ Torr with leak rate not to exceed 5 microns/hour)
- Inert gas (Argon or Helium)

◆ ELECTRICAL PROPERTIES

Electrical resistivity	26 ohm-cm/ft (44 x 10 ⁻⁹ ohm-m)
Electrical conductivity	0.038 mho-ft/cm (23 x 10 ⁶ mho/m)

◆ MECHANICAL PROPERTIES (annealed)

Young's Modulus	12 x 10 ⁶ psi (83 Gpa)
Poisson's Ratio	0.36
Yield Strength (0.2% offset)	39,300 psi (271 Mpa)
Ultimate Tensile Strength	50,200 psi (346 Mpa)
Elongation (2-inch gauge section)	20%
Hardness	110 KHN (1100 (Mpa)

◆ Supplied Forms

- Foil, Wire, Paste