

## Nickel Silver

### ◆ INTRODUCTION

Aufhauser Nickel Silver is a low fuming, cadmium free bronze. It is an excellent replacement for high cost silver brazing alloys when higher brazing temperatures are acceptable. The weld deposits of Aufhauser Nickel Silver have very high tensile strength, good ductility and excellent corrosion resistance. Nickel Silver weld deposits are also machinable and work-harden when put into service. Suitable for tubular structures.

Nickel Silver is available pre-flux coated with the correct amount of flux. No dipping or preparatory work is necessary. Preheating may be desired for some applications. A neutral or slightly oxidizing flame is recommended. (Unsuitable for furnace brazing in a protective atmosphere.)

### ◆ APPLICATIONS

- Brazing Tungsten carbides, copper alloys, nickel alloys, stainless steels & carbon steels.
- Brazing or oxyacetylene welding of steel or cast iron where good color match is desired.
- Building-up or overlaying worn parts such as gear teeth, bearings and valve seats.

### MAJOR ADVANTAGES

- Joints are made at lower temperature than in gas or arc welding
- Minimizes thermal stress and distortion
- Less susceptibility to cracking
- Soft and ductile weld deposits
- Easy machinability
- Low residual stress
- High strength fillets
- Requires only simple, mobile equipment

### ◆ CHEMICAL COMPOSITION

<u>Copper</u>	<u>Aluminum</u>	<u>Nickel</u>	<u>Lead</u>	<u>Phosphorus</u>	<u>Silicon</u>	<u>Zinc</u>
46.0-50.0	0.01	9.0-11.0	0.05	0.25	0.04-.25	Remainder

Note: Copper contains Silver. Copper + Named elements = 99.5% min.

### ◆ PHYSICAL and MECHANICAL PROPERTIES

Melting Point:	1680°F
Solidification:	1665°F
Tensile Strength:	70,000 psi, avg.
Elongation, in 2 in.:	25%
Brinell Hardness:	120



### ◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.8 Class RBCuZn-D
- ASME SFA5.8 Class RBCuZn-D
- QQ-R-571C
- QQ-B-650 (BCuZn-D)
- MIL-R-19631B Type RCuZn-D

### ◆ STANDARD SIZES AND DIAMETERS

<u>Diameters</u>	<u>Length</u>
1/16", 3/32", 1/8", 3/16", 1/4"	18" or 36"

*Copper and its alloys require a relatively high heat input with shortened welding time. Higher preheat temperatures and faster welding rates than for steel are necessary.*