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## Nickel Aluminum Bronze Electrode

### ◆ INTRODUCTION

Aufhauser Nickel Aluminum Bronze Electrodes were developed for the welding of cast and wrought nickel aluminum bronze applications requiring high resistance to corrosion, erosion, or cavitations in salt and brackish water. The slag is easy to remove, and the weld beads are regular.

### ◆ APPLICATIONS

- Ship fittings, Ni-Br-Al boat propellers, power plant valves, piping systems, intake screens.
- Oil recovery pumps propeller gear housings.

### ◆ CHEMICAL COMPOSITION

<u>Copper</u>	<u>Zinc</u>	<u>Tin</u>	<u>Manganese</u>	<u>Iron</u>	<u>Silicon</u>	<u>Nickel</u>	<u>Aluminum</u>
Remainder	*	*	0.50 - 3.50	3.0 - 6.0	1.5	4.0 - 6.0	8.5 - 9.5

Note: Copper contains Silver. All values are maximum percentage, unless shown in range. Total other elements = 0.50  
\* These elements must be included in total of other elements.

### ◆ PHYSICAL and MECHANICAL PROPERTIES

Position(s)	All, except vertical down
Tensile Strength	72,000 psi, min.
Yield Strength	58,000 psi
Elongation, in 2 in.	25%
Brinell Hardness	160-200

### ◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.6 Class ECuNiAl
- ASME SFA5.6 Class ECuNiAl

### ◆ STANDARD SIZES AND DIAMETERS

<u>Diameters</u>	<u>Lengths</u>	<u>Amperage</u>
3/32	12"	55-75
1/8	14"	80-100
5/32	14"	100-130
3/16	14"	100-130

### ◆ COMMON BASE METALS

<u>CDA UNS</u>	<u>Alloy</u>	<u>DIN</u>
C70600	CuNi90/10	CuNi10Fe1Mn
C71500	CuNi70/30	CuNi30Mn1Fe

*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.*