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Nickel Aluminum Bronze

♦ INTRODUCTION

Aufhauser Nickel Aluminum Bronze is a very popular filler metal used in offshore technology such as seawater desalting, shipbuilding and repair. It is also used in the power plant and chemical industry for pumps and tube systems.

♦ APPLICATIONS

- MIG and TIG welding of cast and wrought nickel-aluminum bronze parts where high resistance to corrosion, erosion, and cavitation in salt or brackish water is required.
- Joining and repairing of cast or wrought nickel-aluminum bronze base metals.

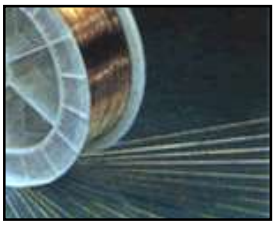
♦ CHEMICAL COMPOSITION

Copper	Zinc	Manganese	Iron	Silicon	Nickel	Aluminum	Others
Remainder	0.10	0.60-3.50	3.0-5.0	0.10	4.0-5.50	8.50-9.50	0.50

Note: Copper contains Silver; Nickel includes Cobalt. All values are maximum percentage, unless shown in range.

♦ PHYSICAL and MECHANICAL PROPERTIES

Tensile Strength	104,000 psi, max.
Yield Strength	59,000 psi, max.
Elongation, in 2 in.	23%
Brinell Hardness	160-200
Liquidus	1930°F (1054°C)
Solidus	1900°F (1038°C)



♦ SPECIFICATIONS MEET or EXCEED

- AWS A5.7 Class ERCuNiAl
- ASME SFA5.7, ERCuNiAl
- MIL-E-23765/3

♦ STANDARD SIZES AND DIAMETERS

Size	Cast (12" spool)	Helix (12" spool)
3/32 or 1/8 x 36" rod	N/A	N/A
.035" dia. X 30 lb. spl	15-40"	< 1"
.045" dia. X 30 lb. spl	15-40"	< 1"
.062" dia x 30 lb. Spl	15-40"	< 1"

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. 20151201.