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Manganese Nickel Aluminum Bronze

♦ INTRODUCTION

Aufhauser Manganese Nickel Aluminum Bronze filler metal is especially suited for welding ship propellers where resistance to corrosion, erosion and cavitations is required. Good toughness and hardness.

♦ APPLICATIONS

- MIG and TIG welding or surfacing of cast or wrought base metals of similar composition.
- Joining or surfacing copper alloys of unalloyed and low alloy steel as well as gray cast iron subject to corrosion.

♦ CHEMICAL COMPOSITION

Copper	Zinc	Manganese	Iron	Silicon	Nickel	Aluminum	Others
Remainder	0.15	11.0-14.0	2.0-4.0	1.5	1.5-3.0	7.0-8.5	0.50

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

♦ PHYSICAL and MECHANICAL PROPERTIES

Tensile Strength	110,000 psi, max.
Yield Strength	67, 000 psi, max.
Elongation, in 2 in.	27%
Brinell Hardness	160-200
Melting Point	1805°F (985°C)

♦ SPECIFICATIONS MEET or EXCEED

- AWS A5.7 Class ERCuMnNiAl
- ASME SFA5.7, ERCuMnNiAl
- 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