

Aluminum Bronze A-3

◆ INTRODUCTION

Aufhauser Aluminum Bronze A-3 contains a higher iron content than the C618 (Aluminum Bronze A-2). The higher iron content gives "A-3" greater strength, while maintaining good ductility.

◆ APPLICATIONS

- Overlaying pistons and depositing bearing surface applications.
- Joining Aluminum Bronze castings of similar composition.

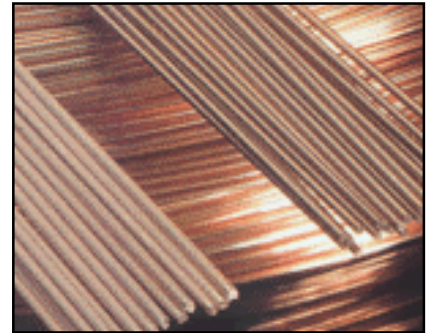
◆ CHEMICAL COMPOSITION

Copper	Aluminum	Iron	Lead	Silicon	Zinc
Remainder	10.0-11.5	2.0-4.5	.30	.25	.20

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

◆ PHYSICAL and MECHANICAL PROPERTIES

Melting Point:	1900°F
Solidification:	1880°F
Density, at 68°F:	0.269 lb/in ³
Electrical Conductivity, at 68°F:	12 %IACS
Thermal Conductivity, at 68°F:	34.0 Btu · ft/(hr · ft ² · °F)
Electrical Resistivity, at 68°F:	86.4 ohms-cmil/ft
Specific Gravity:	7.45
Specific Heat Capacity, at 68°F:	0.09 Btu/lb/°F
Tensile Strength:	65,000 psi, min.
Yield Strength:	40 ksi
Elongation, in 2 in.:	14%
Brinell Hardness:	140-180



◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.7 Class ERCuAl-A3

◆ 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.