



Aufhauser  
Corporation  
39 West Mall  
Plainview, NY 11803  
Telephone:  
516-694-8696  
800-645-9486  
Fax:  
516-694-8690

## Phosphor Bronze C Electrode

### ◆ INTRODUCTION

Aufhauser Phosphor Bronze C Electrode has a higher tin content than the Phos Bronze-A (EC518), resulting in weld metals of higher hardness, tensile and yield strengths. The weld deposit is ductile, strong and machinable as well as resistant to salt water corrosion. Post-weld heat treatment is desirable for maximum ductility, especially if the weld metal is cold worked. The Phosphor Bronze C provides a good color match to bronze and will work harden.

### ◆ APPLICATIONS

- Joining base metals of similar composition: copper tin bronzes (Cu-Sn 6-8%) and some brasses (Cu-Zn).
- Repairing wrought bronzes (Cu-Sn) and surfacing on brasses, steels and cast iron.
- Construction and repair weld of equipment for the chemical industry and petrochemical industry
- Naval constructions and installations for sea water desalination, repair works.

### ◆ CHEMICAL COMPOSITION

Copper	Zinc	Tin	Manganese	Iron	Silicon	Nickel	Phosphorus	Aluminum	Lead
Remainder	*	7.0-9.0	*	0.25	*	*	.05-.35	0.01	0.02

Note: Copper contains Silver. All values are maximum percentage, unless shown in range. Total other elements = .50  
\* these elements must be included in total of other elements.

### ◆ PHYSICAL and MECHANICAL PROPERTIES

Machinability:	Excellent
Color:	Bronze
Current Used:	DC Reverse (electrode +)
Position(s):	All Position
Tensile Strength:	65,000 psi, max.
Elongation, in 2 in.:	45-50%
Brinell Hardness:	85-100

### ◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.6 Class ECuSn-C
- ASME SFA 5.6 ECuSn-C
- MIL-E-23765/3 (MIL-CuSn-C)

### ◆ STANDARD SIZES AND DIAMETERS

Diameters	Lengths	Amperage
3/32	12"	70-90
1/8	14"	90-110
5/32	14"	110-130
3/16	14"	110-130

### ◆ COMMON BASE METALS

<u>UNS</u>	<u>DIN</u>
C 50700	CuSn2
C 51100	CuSn4
C 51900	CuSn6
C 52100	CuSn8
	CuSn6Zn
C52400	G-CuSn10

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.

EC521: Phosphor Bronze C Electrode

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