



# PHOS-BRONZE A Welding Wire and Rod

U.S. ALLOY CO.  
dba Washington Alloy  
7010-G Reames Rd.  
Charlotte, NC 28216  
[www.weldingwire.com](http://www.weldingwire.com)

Quality Management System  
in accordance with  
**ISO 9001**  
Cert # 05-R0925



## ALLOY DESCRIPTION AND APPLICATION; Washington Alloy Phos-Bronze A filler metal is used for MIG

and TIG welding of tin-bronze base metals such as 509 to 519 series, for brass and for overlay welding of steel. Phos-Bronze A contains approximately 5% tin and up to 0.35% phosphorus. The tin content increases the wear resistance of the weld deposit while the phosphorus acts as a deoxidizer. Preheating is recommended. Weld pool should be kept small to reduce hot short cracks.

### TYPICAL GMAW WELDING PROCEDURES; DCEP Spray transfer

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Argon (cfh)
0.023	460-580	60-120	21-22	20-25
0.030	450-525	130-160	21-24	20-30
0.035	385-455	155-190	23-25	25-30
0.045	275-310	210-235	26-28	30-35
1/16	150-240	250-310	27-31	35-40

### TYPICAL GTAW WELDING PROCEDURES; DCEN with EWTh-2 truncated conical tip

Filler Wire Size	Tungsten	Amps	Volts	Gas Cup Size	Argon (cfh)	Base thickness
1/16"	1/16"	80-170	12	3/8-1/2"	20	1/16-1/8"
3/32"	3/32"	140-275	12	3/8-1/2"	20	1/8- 3/16"
1/8"	1/8"	200-375	12	1/2"	25	1/4-3/8"
1/8-5/32"	3/16"	260-475	12	1/2-3/4"	30	3/8-1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

### CHEMICAL COMPOSITION REQUIRMENT (%) AND PHYICAL PROPERTIES;

Copper	Remainder	Melting Temp	Approx. 1922° F
Aluminum	0.01		
Lead	0.02	Tensile Strength (psi)	35,000 min.
Iron	0.50	Brinell Hardness	70-85
Phosphorus	0.10-0.35		
Tin	4.0 – 6.0		

All single values on composition are maximum percentages & Total others elements 0.50

**AVAILABLE SIZES:** TCU PBA = Spools of .035, .045  
TCU PBA/ = Cut lengths of .035, 1/16, 3/32, 1/8, 5/32, 3/16,  
Other sizes available – please inquire

**SPECIFICATIONS;** ANSI/AWS A5.7 ERCuSn-A  
ASME SFA 5.7 ERCuSn-A

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