

Inweld Phos-Bronze A

Alloy 518 UNS/CDA C51800
 AWS A5.7 Class ERCuSn-A
 ASME SFA 5.7 ERCuSn-A
 QQ-R-571C, MIL-R-19631B Type-RCuSn-A



Description and Applications:

Inweld Phos-Bronze A filler metal is used for MIG and TIG welding of similar base metals such as 509 to 519 series of tin bronze alloys, for bronze and brass and for overlay welding on steel. Inweld Phos-Bronze A contains 5% tin (Sn) and 0.35% phosphorus (P). Tin increases the wear resistance of the weld deposit and slows the rate of solidification, while the phosphorus acts as a deoxidizer. Preheating is not required, however when welding thick sections - a preheat and interpass temperature of 350 to 400 F (177 to 204 C) will improve metal fluidity. Rapid cooling at room temperature is recommended.

Chemical Composition of PHOS-Bronze A ERCuSn-A

Cu	Al	Pb	P	Sn	Total Others
Balance	0.01	0.02	0.10-0.35	4.0-6.0	0.50

Single values are maximum unless otherwise specified.

Approximate Melting Temperature: 1922 F (1050 C)
 Average As-Welded Brinell Hardness: 70-85
 Tensile Strength: 35,000 psi (240 MPA)



Recommended Welding Parameters:

	Wire Diameter	Voltage*	Amperage*
GMAW (DCRP – Electrode +)	0.035"	20-26	100-200
100% Argon or a 75 – 25%	0.045"	22-28	100-250
Argon / Helium mixture	1/16"	29-32	250-400
.	3/32"	32-34	350-500
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GTAW (DCSP – Electrode -)	1/16"	70-120	70-150
ACHF using 100% Ar or He	3/32"	120-160	140-230
2% Thoriated, 2% Ceriated or	1/8"	170-230	225-320
2% Lanthanum Tungsten Electrode	5/32"	220-280	175-300
.	3/16"	280-330	200-320

*Use low range for iron or nickel-based alloy's, middle range for bronze alloys and high range for copper.