



# Unibraze Phos-Bronze C

**Classification:** AWS A5.7/ASME SFA 5.7 ERCuSn-C UNS: C52100

**Description:** **Unibraze Phos-Bronze C** is recommended for high strength welds on phosphorus -bronze materials. It is harder and stronger than Phos-Bronze A (ERCuSn-A) and is a color match for phos-bronze materials. The higher Sn content of **Unibraze Phos-Bronze C** increases strength and wear resistance and increases the solidification temperature range during depositions of the weld metal. It is used to overlay on cast iron or steel, to join dissimilar metals, for maintenance repair and fabrication of valve bodies, seats, bearings, bushings, gears, propellers, impeller blades and housings. Preheat is recommended for heavy or thick sections, a preheat and interpass temperature at ~400°F, then rapid cool at room temperature. Shielding gas: 100%Ar, 100%He, or Ar/He Blends.

## Typical Weld Deposit Chemistry

Cu	Zn	Sn	Fe	P	Al	Pb	Others
Rem.	.003	7.70	.009	.27	.002	<.003	.01

## Typical Physical Properties

<b>Tensile Strength</b>	66,000 psi	<b>Brinell Hardness</b>	90-100 HB
<b>Yield Strength</b>	35,000 psi	<b>Solidus</b>	1620°F
<b>Elongation</b>	45%	<b>Liquidus</b>	1880°F

## Suggested Welding Parameters (using 100% Ar)

### GMAW (DC Reverse Polarity)

Dia.	Amps	Volts	Wire Feed (ipm)	Argon (cfh)
.035"	140-160	26-27	280-400	30
.045"	165-185	27-28	200-300	30
.062"	285-335	28-30	150-210	40

### GTAW (DC Straight Polarity)

Dia.	2% Thoriated	Amps(DC)	Amps (AC)	Gas Cup	Argon (cfh)
1/16"	1/16"	100-120	100-120	3/8-1/2	15
3/32"	3/32"	185-205	165-195	7/16-1/2	15
1/8"	3/32"	185-205	165-195	7/16-1/2	16

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus, the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.