



Phos-Bronze C Alloy No. 521



Description: Weldcote Metals Phos-Bronze C filler metal is used quite extensively for surfacing applications. The higher tin (Sn) content (7.0-9.0%) gives “PBC” weld deposits greater hardness and higher tensile/yield strength than Phos-Bronze A. “PBC” is commonly used for base metals of similar composition, for joining brass alloys and for joining cast iron to carbon steel. Preheating is recommended.

Specifications: CDA521

NOMINAL COMPOSITION:

Phosphorus	.03-.35 %	Tin	7.0-9.0%
Lead	.05 % max.	Zinc	.20 % max
Copper	Balance	Iron	.10 % max
Others	.50 % max.		

PHYSICAL PROPERTIES :

Solidus	1620 °f (882 °C)	Liquidus	1880 °f (1027 °C)
Yield Strength	35,000 psi	Tensile Strength	66,000 psi
Elongation	45 %	Brinell Hardness	90-100 HB

RECOMMENDED WELDING PARAMETERS:

***GMAW (MIG) Parameters** (DC Reverse Polarity) Electrode Positive Spray transfer

<u>Wire Diameter</u>	<u>Amps</u>	<u>Volts</u>	<u>Argon (cfh)</u>	<u>Wire Feed ipm</u>
.030	130-140	25-26	25	340-450
.035	140-160	26-27	30	280-400
.045	165-185	27-28	30	200-300
1/16	285-335	28-30	40	150-210

***GTAW (Tig) Parameters** (DCSP) ² Electrode negative or ACHF

<u>Material</u>	<u>2%Thoriated²</u>	<u>Filler WireSize</u>	<u>Amps (DC)</u>	<u>Amps (AC)</u>	<u>Gas Cup</u>	<u>Argon(cfh)</u>
1/16"	1/16"	1/16"	100-120	100-120	3/8-1/2	15
3/32"-1/8"	3/32"	3/32"	185-205	165-195	7/16-1/2	15
3/16"	1/8"	3/32"-1/8"	300-350	255-300	7/16-1/2	20
1/2"	3/16"	1/8"	615-640	440-185	1/2	25

*** All parameters are suggested as basic guidelines and will vary depending on joint design, number of passes and other factors.**

Weldcote Metals believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Weldcote Metals can not make any expressed or implied warranty as to this information.