Inweld Silicon Bronze

AWS A5.7 ERCuSi-A (Welding)

AWS A5.27 RCuSi-A (Brazing)

Chemical Composition of Inweld Silicon Bronze

Fe	Zn	Sn	Al	Mo	Mn	Si	Pb	S	Cu	Other
0.50	1.0	1.0	0.01	---	1.5	2.8-4.0	0.02	---	Balance	0.50

Single values are maximum unless otherwise specified.

Description and Applications

Inweld Silicon Bronze, years ago referred to as “Everdur” 656, contains 3% silicon and residual amounts of manganese, tin and zinc. The high silicon content allows this alloy to be used in welding and brazing procedures. Silicon Bronze is best known for welding plain or galvanized steel sheet metal. Principal applications include MIG, TIG or oxyacetylene welding of copper, copper-silicon and copper-zinc base metals to themselves and to steel. Silicon Bronze is also used for surfacing parts that may be exposed to a corrosive environment. The weld deposits of this alloy demonstrate high strength, excellent corrosion resistance and good weld-ability. Apply a high boric acid flux before and during welding. When oxyacetylene welding, the gas flame should be slightly oxidizing. Keep a small weld pool that promotes rapid solidification and this will also minimize cracking.

Typical Weld Metal Properties & Brazing Properties

	AWS Spec
Average As-Welded Brinell Hardness:	80-100
Tensile Strength:	50,000 psi
Yield Strength:	
Elongation:	65%

Recommended Welding Parameters

SMAW (DCEP – Electrode+)

Wire Diameter	Voltage	Amperage
3/32”		50-110
1/8”		90-160
5/32”		130-180
3/16”		150-225

GMAW (DCEP – Electrode+)

Wire Diameter	Voltage	Amperage
0.035”	20-26	100-200
0.045”	22-28	100-250
1/16”	29-32	250-400
3/32”	32-34	350-500

GTAW (DCEN – Electrode-)

Filler Wire Diameter	Voltage	Amperage
1/16”		70-120
3/32”		120-160
1/8”		170-230
5/32”		220-280
3/16”		280-330