

AWS CLASS ERCuSi-A

AWS A5.7 ASME SFA 5.7

DESCRIPTION:

Blue Demon Silicon Bronze is a premium quality, De-oxidised general purpose, silicon bronze filler rod producing excellent joints on copper, brass, copper-silicon and copper-zinc sheet, tube and extruded section base metals to themselves and also to steel.

It is an excellent choice for joining plain or galvanized sheet steel to metal as well as other coated steels. It provides good corrosion resistance and has good weldability. Silicon bronze is a hot short arc and extreme care must be exercised to avoid overheating the joint which tends to cause cracking.

TIG DIAMETERS: 1.6 2.4 3.2mm

MIG DIAMETERS 0.8mm

WELDING GUIDELINES:

- With gas metal-arc welding, the weld metal should be deposited in stringer beads, maintaining a small molten pool to avoid overheating the hot short silicon bronze base metal. Use argon gas for shielding and relatively high welding travel speeds.
- With the gas-tungsten arc welding process, welding is accomplished with DCEN (direct current electrode negative) current and argon or helium gas shielding. ACHF (alternating current high-frequency) with argon gas shielding may be used to take advantage of the arc cleaning action.
- Preheat slightly to remove moisture. Interpass temperature should not exceed 150°F (66°C)

TYPICAL CHEMICAL COMPOSITION (Wt% filler metal):

Aluminum (Al)	0.01 max
Copper (Cu)	Balance
Iron (Fe)	0.50 max
Lead (Pb)	0.02 max
Manganese (Mn)	1.50 max
Silicon (Si)	2.8-4.0
Tin (Sn)	1.00 max
Zinc (Zn)	1.00 max
Others	0.50 max

Ultimate Tensile Strength
(psi) 50,000 psi (350 MPa)

Percent Elongation in 2"
40%

1/4" Deposit 80

TIG WELDING

Thoriated Electrode

Argon Shielding Gas

DC Electrode Negative or ACHF Electrode Negative

TYPICAL GMAW (MIG) WELDING PARAMETER

DC Electrode Positive Spray Transfer

Argon Shielding Gas