

Product description

Pure copper deoxidised with 3% silicon.

Specifications

AWS A5.7 ERCuSi-A
BS EN ISO 24373 S Cu 6560 / CuSi3Mn1
BS 2901 pt 3 (C9)
DIN 1733 (SG-CuSi3 / 2.1461)

ASME IX Qualification

QW432 F-No 32

Materials to be welded

General purpose including phosphorus deoxidised copper, silicon bronze, nickel silver and some brasses.

Applications

97CuSi silicon bronze has a wider range of general purpose applications than 100Cu, including overlaying of steels and cast irons.

Applications include plate for **chemical plant** and **moulds, stills** and **calorifiers**, rods and wires for **electrical components** and tubes for **heat exchangers**.

Microstructure

Single phase (fcc).

Welding guidelines

Preheat is not required when welding silicon bronze and interpass temperature should be kept below 100°C.

If welding copper then preheat of about 100°C will be required for 6mm material increasing up to about 400/500°C for 15mm thick material.

Composition (weld metal wt %)

	Cu	Mn	Si	Sn	Pb	Al	Fe	Zn	P
min	bal	0.5	2.8	--	--	--	--	--	--
max	bal	1.5	4.0	0.2	0.02	0.01	0.50	0.4	0.05
typ	96	0.9	3	0.1	0.002	<0.01	0.04	<0.1	<0.01

All-weld mechanical properties

Typical as welded	TIG
Tensile strength	320
0.2% Proof stress	105
Elongation on 4d	34
Hardness	85

Typical parameters

	TIG
Shielding	Ar or He
Current	DC- *
Diameter	2.4mm
Parameters	200A, 15V

* AC with argon provides optimum arc cleaning action.

Packaging data

ø mm	TIG
2.4	2.5kg tube

Storage

Recommended ambient storage conditions: < 60% RH, >18°C.

Related alloy groups

The pure copper wire (data sheet E-30) is used for welding copper when optimum thermal or electrical conductivity is required.

Fume data

Fume composition, wt % typical (TIG fume negligible):

Fe	Mn	Cr ³	Ni	Mo	Cu	OES (mg/m ³)
<1	5	<0.1	<0.1	<0.1	80	0.3