

### Product description

Deoxidised pure copper.

### Specifications

**AWS A5.7** ERCu  
**BS EN ISO 24373** S Cu 1898A / CuSn1MnSi  
**BS 2901 pt 3** (C7)  
**DIN 1733** (SG-CuSn / 2.1006)

### ASME IX Qualification

QW432 F-No 31

### Materials to be welded

#### Oxygen free copper

BS grade C103, UNS C10200, ISO Cu-OF / Cu-OFS

### Applications

100Cu produces a deoxidised pure copper deposit for maximum thermal and electrical conductivity.

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

### Welding guidelines

Apart from very thin material (<3mm thick) a preheat will be required. The required preheat will range from about 100°C at 6mm thick up to about 400/500°C for material 15mm thick.

### All-weld mechanical properties

Typical as welded		TIG
Tensile strength	MPa	200
0.2% Proof stress	MPa	70
Elongation on 4d	%	20
Hardness	HV	60

### Microstructure

Single phase (fcc).

### Typical parameters

	TIG	MIG
Shielding	He *	Ar, He or Ar-He
Current	DC-	DC+
Diameter	2.4mm	1.2mm
Parameters	250A, 15V **	300A, 28V **

\* Ar can also be used but He produces deeper penetration, permits higher travel speeds and allows preheat to be reduced.

\*\* Higher currents will be required as material thickness increases, parameters given are suitable for material of about 6mm thickness.

### Packaging data

ø mm	TIG	MIG
1.2	--	15kg spool
1.6	2.5kg tube	--
2.4	2.5kg tube	--

### Storage

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

### Related alloy groups

The copper silicon wire (data sheet E-31) is also used for welding copper when a more highly deoxidised filler is required.

### Fume data

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

Fe	Mn	Cr <sup>3</sup>	Ni	Mo	Cu	OES (mg/m <sup>3</sup> )
<1	2	<0.1	<0.1	<0.1	82	0.2

### Composition (wire wt %)

	Cu	Mn	Si	Sn	Pb	Al	Fe	Ni	P
min	98.0	0.1	0.1	0.5	--	--	--	--	--
max	bal	0.4	0.4	1.0	0.01	0.01	0.03	0.1	0.015
typ	99	0.3	0.3	0.6	<0.01	<0.01	<0.01	<0.01	<0.01