

Silicon Bronze

SiBz3Mn (ERCuSi-A)

Material Designation *

AWS	ERCuSi-A
EN	CuSi3Mn1 (Cu 6560)
JIS	/
GB	SCu6560

Chemical Composition

Cu	Balance	%
Si	2.8-3.8	%
Mn	0.5-1.3	%



Characteristics

It is a silicon bronze welding wire containing 3% silicon and a small amount of manganese. The addition of manganese enables it to have good mechanical properties, good corrosion resistance and good wear resistance after welding.

Typical Applications

It is used in argon arc welding of silicon bronze, red copper, brass and aluminum bronze, and it is also used for arc welding and surfacing welding of copper and steel, copper and galvanized steel sheet (such as car door frame, motorcycle parts, etc), solenoid valves and switches cabinets, and surfacing welding of friction surfaces of rolling stock and heavy machinery.

Physical Properties

Density ^①	8.53	g/cm ³
Melting point	910	°C
Thermal conductivity ^①	36.3	W/m·K
Coefficient of thermal expansion ^②	17.3	10 ⁻⁶ /K
Electrical conductivity ^①	7	%IACS

Note①: Temperature for testing is 20°C.

Note②: Temperature range for testing is 20-300°C.

SiBz3Mn (ERCuSi-A)

Delivery Form

	Packing	Size(ODxIDxHeight)	Weight/Length	Diameter
			kg/mm	mm
Spool	D200 (Plastic spool)	Φ200 × Φ52 × 55	5.0	0.8 ≤ Φ ≤ 1.6
	D300 (Plastic spool)	Φ300 × Φ52 × 100	12.5	0.8 ≤ Φ ≤ 1.6
	BS300 (Galvanized steel spool)	Φ300 × Φ52 × 100	12.5	0.8 ≤ Φ ≤ 1.6
Barrel	100kg (Barrel carton)	Φ500 × Φ305 × 500	100	0.8 ≤ Φ ≤ 1.2
	200kg (Barrel carton)	Φ500 × Φ300 × 750	200	0.8 ≤ Φ ≤ 1.2
	200kg (Barrel carton)	Φ660 × Φ440 × 700	200	Φ = 1.6
Straight bar	Crate	--	250-3000mm	1.6 ≤ Φ ≤ 7.0
Coil wire	Kraft/crate	--	10-200	0.8 ≤ Φ ≤ 7.0

*Composition AWS
Other Physical Properties AWS

The datasheet is for your general information only and is not subject to revision. No claim can be derived from it unless is evidence of intent or gross negligence. The data given is with reference to the relevant standards as ASTM, BS EN, JIS, RWMA, SAE and is for reference only, no warranty can be derived from the data provided. The given info may not replace the customers' own tests.