

Sn99.3Cu0.7 lead-free tin wire parameter table

Sn/Cu

Product Introduction

The lead-free tin wire produced by our company is widely used in the current industry. It is an important industrial raw material for connecting electronic devices in welding circuits. It is widely used in the electronics industry, home appliance manufacturing, automobile manufacturing, maintenance industry and daily life.

Physical properties

Specific alloy	Sn99.3/Cu0.7
Hot melting point (J/Kg·K)	220
Solid state temperature	227°C
Thermal conductivity (J/m·s·K)	64
Liquid state temperature	228°C
Tensile strength (MPa)	32
Specific gravity	7.32
Elongation (%)df	48

Dimensions and tolerances of solder wire	
Diameter mm	allowable deviation mm
≤0.3	±0.02
0.8~2.5	±0.03
> 0.8~2.5	±0.05
> 2.5~6.0	±0.10

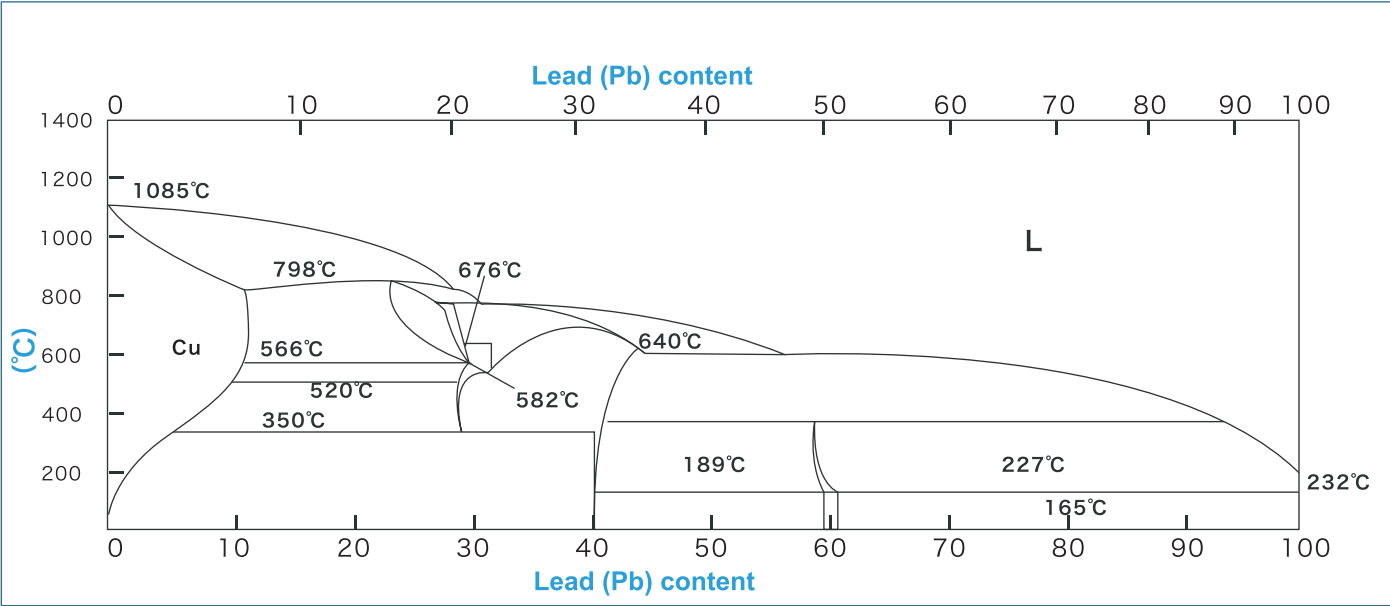
Optimal soldering iron temperature

It is recommended to adjust the actual soldering iron temperature to 350 ± 20°C

Items	Parameter	Test standards
Flux paste classification	ROL1	J-STD-004

SnPb system phase diagram

Eutectic composition: Sn-Cu0.7 Melting point: 227°C



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chemical properties

Item	Inspection standard	Reference standards
Flux content (%)	Nominal value: $\pm 0.2\%$	GB/T 20422-2006
Flux continuity (96)	$<1.5\%$	GB/T 3131-2001
Halogen content (in terms of C1, wt%)	R: $<0.05\%$;RMA:0.05%-0.15% RA: $>0.15\%$	GB/T 9491-2002
Copper plate corrosion	No obvious corrosion	JIS Z 3197
Copper mirror corrosion	AA:Should be basically unchanged A:Should not cause penetrating corrosion of copper film	JIS Z 3197
Insulation resistance (Ω)	R,RMA:-level $\geq 1 \times 10^{12}$ Level 2: $\geq 1 \times 10^{11}$ RA:-level $\geq 1 \times 10^{11}$ Level 2: $\geq 1 \times 10^{10}$	GB/T 9491-2002
Water extract resistance ($\Omega \cdot \text{cm}$)	R,RMA: 1×10^5 RA: $\geq 5 \times 10^4$	GB/T 9491-2002
Expansion rate (%)	R: ≥ 75 ,RMA ≥ 80 ,RA: ≥ 90	GB/T9491-2002
Dryness	The surface of welding slag should be non-sticky, and the chalk powder (or white chalk) on the surface Should be easily removed	IPC-TM-650
Splash rate (%)	Priority:0~10% Medium:11~30%;Unqualified: $>31\%$	IPC-TM-650
Acid (mgKOH/g)	$>162\text{mg(KOH)/g}$	GB/T 8146-2003

Main testing instruments and equipment

Instrument, equipment name	Model	Origin	Application
Metal direct reading spectrometer	MAXx	Germany	Alloy composition analysis
Atomic absorption spectrophotometer	WYX-9003A	Shenyang	Alloy composition analysis
Precision electronic balance	BS240	Germany	Weight, specific gravity test
Micrometer	/	Shanghai	Expansion rate test
Digital caliper	/	Shanghai	Measurement of wire diameter
Constant temperature and humidity test machine	BE-TH-80M3	Dongguan	Aging test
Insulation resistance tester	YD2681A	Changzhou	Resistance test

Packaging

1. Rubber ring, round label, surrounding label, paper box, can be packed by our company or neutral packaging according to customer requirements.
2. The paper box specification is 10 rolls of tin wire/box (the weight of each roll is produced according to customer requirements). The weight error of each roll is 2g
3. The company's goods logo and production logo are printed on one side of each box
4. Transportation method: delivery by car to the door, small quantities are delivered by express delivery to the door.

Storage conditions

Place in a dry, cool and ventilated place at room temperature When using, in order to obtain a good welding effect, the welded parts must be weldable, the welded metal surface should be kept clean, the appropriate flux content should be selected, and the appropriate welding temperature should be selected.

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