



Type: No-clean Solder Paste  
Alloy: Sn63Pb37



## DESCRIPTION

Sn63Pb37 series is a middle activated rosin no-clear solder paste. Special designed for LED production process. Sn63Pb37 Series is different than most other types of no-clear solder paste with great selection of process parameters, so it can adapt in different environment, different equipment and different application process. Sn63Pb37 It can ensure excellent continuity printing, anti-collapse ability, surface insulation resistance. Low residue after welding can ensure the ICT test. Sn63Pb37 With excellent anti-interference ability, in the continuous printing can still ensure 10 hours of solder paste has good adhesion conditions.

## FEATURES

Lead solder paste	10 hours continuous printing capability
6 hours collapse schedule	No need for gas protection
Viscosity constant type 3	1450 kcps @ 5 RPM
Viscosity constant type 4	1100 kcps @ 5 RPM
Viscosity constant type 5	750 kcps @ 5 RPM

## STANDARD PASTE COMPOSTION

Application features	IPC Alloy type	Alloy powder size	Alloy powder content
Standard printing	3	45-60um	91%
Thin distance printing	4	25-45um	89.2%
Drip	5	10-25um	88%

## PHYSICAL PROPERTIES

- ✓ Suitable for 89%, -325+500Alloy powder solder paste
- ✓ Brook field : 700-1400kcPs @ 5 RPM (Brook field Viscometer at 25°C)
- ✓ Malcom:1700-2300 Poise @ 10 RPM (Malcom Viscometer at 25°C)

Solder ball test	Qualified	Test standard	J-STD-005, IPC-TM-650, Method 2.4.43
Wet ability test	Qualified	Test standard	J-STD-005, IPC-TM-650, Method 2.4.45

## RELIABILTY PROPERTIES

The Copper mirror test	Qualified(low)	Test standard	J-STD-004, IPC-TM-650, Method 2. 3. 32.
Copper surface corrosion test	Qualified(low)	Test standard	J-STD-004, IPC-TM-650, Method 2. 6. 15



## Halogen content test

Silver chromate test	Qualified	Test standard	J-STD-004, IPC-TM-650, Method 2. 3. 33
Fluorine point test	Qualified	Test standard	J-STD-004, IPC-TM-650, Method 2. 3. 35. 1
Surface insulation resistance	Qualified	Test standard	J-STD-004, IPC-TM-650, Method 2. 6. 3. 3

## IPC TM-650

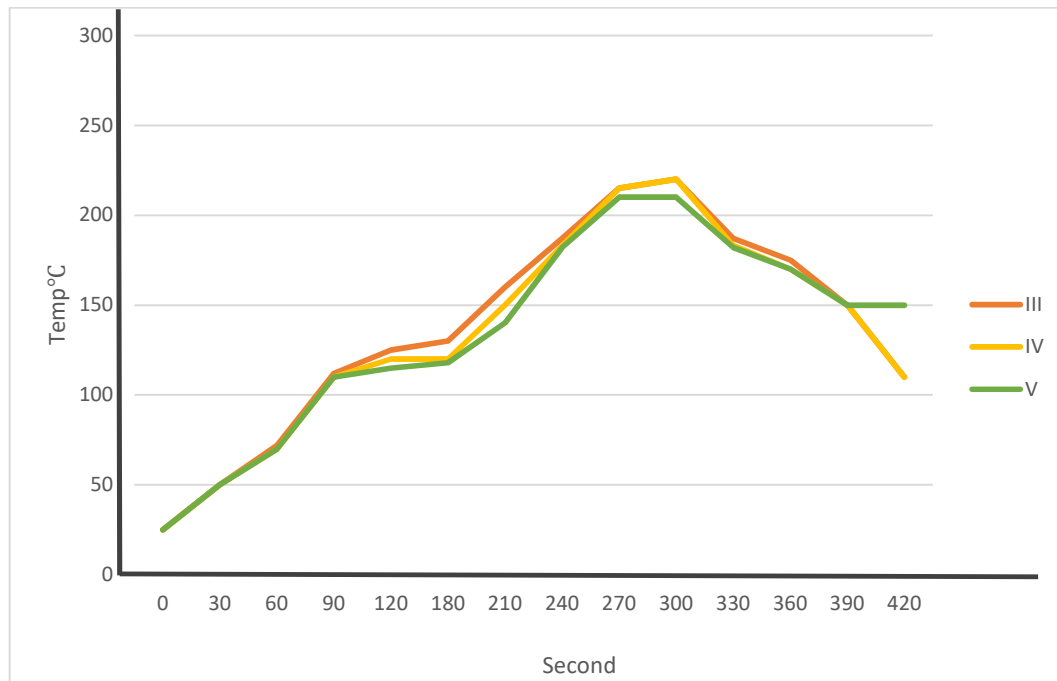
0Hour	>1×10012hm	96Hour	>1×10011hm
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## APPLICATION NOTES

### Printing Parameters

Scraper	80-90 Shore hardness of polyurethane or stainless steel material
Scraper speed	25-150mm/sec
Grinding plate material	Stainless steel, Mo, Or brass
Temperature and humidity	Temperature70-77F (21-25°C) 、 Humidity35-65% R.H

## REFLOW DATA





Heating rate	The time of rapid heating up to 150°C	Slow heating 140-180°C	Peak temperature 215±5°C	>183°C	>210°C	Cooling
13°C/SEC	<90S	60-100S	230°C	30-60S	10-20S	<4°C/S

## Cleaning after soldering

Sn63Pb37 series is a no-clean solder paste. General you don't need to clean the stencil after welding. If you want to clean the stencil, SSTP series solder paste is easy to clean by use the corresponding cleaning agent Maier Shun.

Packaging form	Bottled - a bottle of 50 grams and 500 grams of choice
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## Storage, Operation and Preservation Period

Sn63Pb37 can be preserved for 6 months within 5-10°C, Don't let the solder paste cryopreservation. Before open the package when you want to use the solder paste, please warm up the solder paste to room temperature fully.(recommended 4 hours)

Stir the solder paste well 1-2 minute to ensure fully mixed before use it because in the cold temperature storage the component of solder paste will separation.

Do not use left solder and new solder paste mixed within the same package.

Solder paste does not need to use should be re-sealed. When the bottle cap can't be good to seal preservation please replace a new bottle cap to ensure as far as possible the seal.

## Sn63Pb37 Disposable solder alloy composition (Sn60/Pb40)

component	Sn	Pb	Cu	Cd	Zn	Al	Sb	Fe	As	Ag	Ni
content	63±0.5	37±0.5	≤0.01	≤0.002	≤0.002	≤0.001	≤0.02	≤0.02	≤0.01	≤0.01	≤0.005

## Test Report

Model: Sn63Pb37

Flux type: Bromide

Date of original data test: 05/10/2024

Test item	According to the rules	IPC-TM-650 Test method	Testing requirement	Test results
Metal content	3.4	2.2.20	89.5-90.5%	89.7%
viscosity	3.5	Brookfield	700-1400kcps	700-1100
		Malcom	150-250kcps	170-230
	3.6		No bridging	qualified



Solder Balls	3.7	2.4.43	No big ball	qualified	
Expansion ratio		4.7.7.2.2		92%	
The mirror test	3.2.4.1	2.3.32	<50%Pierce through	qualified	
Halogen test	3.2.4.2				
Silver chromate test	3.2.4.2.1	2.3.33	No color change	qualified	
Fluorine point test	3.2.4.2.2	2.3.35.1	No color change	qualified	
Copper surface corrosion	3.2.4.4	2.6.15	Slight corrosion can be accepted	qualified	
Surface insulation resistance	3.2.4.4	2.6.3.3	0 Hour	$>1.00 \times 10^8$	$1.09 \times 10^{12}$
	3.2.4.5		96 Hours	$>1.00 \times 10^8$	$1.38 \times 10^{11}$

## Soldering Defects and Solving Methods

### Tomb stoning (tombstone phenomenon)

Possible causes	Solution
a) Position shift	Adjust printing parameters
b) In the strength of solder paste flux floating component	Use the solder paste with less flux
c) The thickness solder paste is not enough after printing	Increase printing thickness
d) Heating speed is too fast and uneven.	Adjust reflow soldering temperature curve
e) Welding pad design is not reasonable	Strictly according to the specification of the pad design
f) use Sn based solder	Use paste containing Ag or Bi

### Solder Ball

Possible causes	Solution
a) Heating speed is too fast	Adjust reflow soldering temperature curve
b) The moisture absorption of solder paste	Reduce environmental humidity
c) The solder paste is oxidized	Use new solder paste, shorten the warm-up time
d) PCB Pad contamination	For PCB or increase the activity of solder paste
e) Component placement pressure is too large	Reduce pressure
f) Too much solder paste	Reducing the size of hole on the stencil or reducing the pressure of the scraper

### Poor Cleaning, leaving white residue after cleaning



Possible causes	Solution
a) Paste flux washability is not good	Chang the solder paste with good flux washability
b) Cleaning agent is not suitable, cleaning solvent can't reach the small gap	Improved cleaning solvent
c) Incorrect cleaning methods	Improved cleaning method