



## Absolutely halide free lead-free solder paste

### Description

**LP 5720** is a no-clean, absolutely halide free and lead-free solder paste developed for increased stability on the stencil and clear residues after reflow.

The solder paste keeps its rheological properties under a wide variety of atmospheric conditions, assuring a stable and reproductive printing process.

**LP 5720** is suitable for both low and high as well as short and long lead-free reflow profiles.

The residues of the solder paste are minimal and clear, also after long and high reflow profiles.

Residues are pin testable.

**LP 5720** exhibits acceptable voiding for lead-free alloys.

**LP 5720** is absolutely halide free providing optimal reliability after soldering.

The solder paste is classified as RO L0 according to IPC and EN standards.



Products pictured may differ from the product delivered



### Key properties

- High stability / High stencil life
- Wide process window in reflow
- Clear and minimal residue
- Absolutely halogen free

### Availability

alloy	metal content	powder size	packaging
Sn96,5Ag3Cu0,5	printing: ~ 88.5%	type 3	jars :250g/500g
Sn99Ag0,3Cu0,7		type 4	<u>cartridges:</u> 6Oz: 500g/600g/700g
Sn99,3Cu0,7		type 5 for certain alloys	12Oz: 1kg/1,2kg/1,3kg/1,5kg
Other alloys upon request			<u>syringes</u> : 5CC/10CC/ 30CC  other packaging upon re-





## Profile recommendations for LP 5720

**LP 5720** has been designed for a large process window in reflow. The solder paste can cope with both long and high as well as short and low profiles.

In general a profile with limited soak is advised. Also ramp profiles and soak profiles are possible. Soak profiles may be used when temperature differences across a board, due to a high mix of components or large board sizes, need to be levelled out or when voids, if present, need to be decreased.

When soldering an assembly in a lead-free reflow soldering process, care must be taken not to overheat components especially when using air convection or IR ovens. It is very important to know the temperature limitations of the components used on the board. To get a good thermal mapping of the board it is advised to use thermocouples and a thermal measuring tool. Measure on small outline, big outline and temperature sensitive components. Measure on the board side near the conveyor chain, in the middle of the board and close to, or on heat sinks.

### Preheat

To allow absorbed moisture in the components to evaporate slowly and avoid component cracking, keep a steady heating rate between 1-3°C/s until about 200°C. For that purpose try to avoid a hot air temperature setting in the first heating zone above 150°C.

### Soak

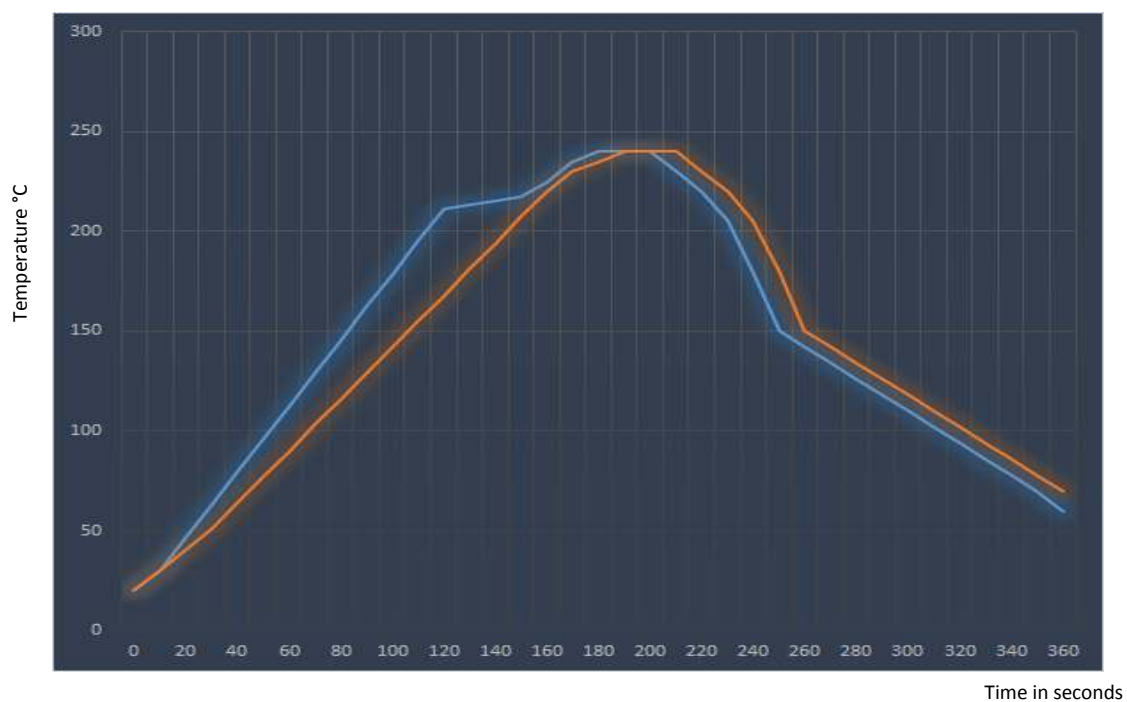
A soak zone between 200°C and 215°C can be used to level out temperature differences and/or reduce voiding.

### Reflow

Peak temperature used is related to component specifications. In general between 235°C and 250°C. The time in liquidus (over melting point of the alloy used) could be between 45s and 90s.

### Cooling

It is advisable to cool not faster than -4°C/s because of differences in thermal expansion of different materials (component and boards). Faster cooling in general gives stronger solder joints.





## Handling

### Storage

Store the solder paste in the original packaging, tightly sealed at a preferred temperature of 3° to 7°C. Shelf life is 6 months.

### Handling

Let the solder paste reach room temperature prior to opening the packaging. Stir well before use.

### Printing

Assure good sealing between PCB and stencil. A negative print gap of 0,2 to 0,4mm is advisable. Apply no more than enough squeegee pressure to get a clean stencil. Apply enough solder paste to the stencil to allow smooth rolling during printing. Regular replenish fresh solder paste.

### Maintenance

Set an under stencil clean interval which provides continuous printing quality. **ISC8020** is recommended as cleaning agent in pre saturated wipes and USC liquid.

### Reuse

Avoid mixing used and fresh paste in a jar. Do not put packages back into refrigeration when already opened. Store used paste in a separate jar at room temperature. A test board before reusing in production is advisable.

## Test results

conform IPC J-STD-004B/J-STD-005

Property	Result	Method
<b>Chemical</b>		
qualitative copper mirror	pass	J-STD-004A IPC-TM-650 2.3.32
halide content	0,00%	J-STD-004A IPC-TM-650 2.3.28.1
silver chromate (Cl, Br)	pass	J-STD-004A IPC-TM-650 2.3.33
flux classification	RO LO	J-STD-004A
<b>Environmental</b>		
SIR test	pass	J-STD-004A IPC-TM-650 2.6.3.7

Property	Result	Method
<b>Mechanical</b>		
solder ball test	pass	J-STD-005 IPC-TM-650 2.4.43
after 15min	pass	J-STD-005 IPC-TM-650 2.4.43
after 4h	pass	J-STD-005 IPC-TM-650 2.4.43
wetting test	pass	J-STD-005 IPC-TM-650 2.4.45
slump test	pass	J-STD-005 IPC-TM-650 2.4.35
after 15min at 25°C	pass	J-STD-005 IPC-TM-650 2.4.35
after 10min at 150°C	pass	J-STD-005 IPC-TM-650 2.4.35





## Health and safety

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Please always consult the safety datasheet of the product.

## Operating parameter recommendations

### Printing

speed: 10—100 mm/sec  
squeegee pressure: 250g—350g/cm length  
U.S.C. interval: every 10 boards  
Preferred temperature range: 15 to 25°C  
Preferred humidity range: 40% to 75% r.H.  
Stencil life: >24hrs

### Mounting

tack time: >8 hours

### Reflow

reflow profile: linear and soak  
heating type: convection, ...

### I.C.T

flying probe testable  
pin-bed testable

### Cleaning

Cleaning of the paste from stencils and tools is recommended with Interflux<sup>®</sup> **ISC 8020**.

The post reflow residues of LP 5720 are highly reliable and do not need to be cleaned, however they can be cleaned if desired.

Trade name : LP 5720 No-Clean, Halide Free, Lead-Free Solder Paste

### Disclaimer

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