



No-clean, absolutely halide free and lead-free solder paste

Description

IF 9057 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 works extremely well for Pin-in-Paste (PiP) applications. The rheology provides excellent adhesion properties to the pin and the through hole surfaces. This results in no paste dropping down from the board and excellent barrel fill.

IF 9057 works very well in a vapour phase soldering process. Residues do not flow out and tomb stoning is reduced drastically compared to other solder pastes. For optimal tomb stoning reduction, the ATL version of the IF 9057 is advised (see availability).

The residues of the solder paste are minimal and clear. Residues are pin testable.

IF 9057 is absolutely halide free providing optimal reliability after soldering.

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



Products pictured may differ from the product delivered

Key properties

- Perfect for Pin-in-Paste
- Anti-tombstone
- Works very well in vapour phase
- High stability / High stencil life
- Clear and minimal residue
- Absolutely halogen free

Availability

alloy	melting point	metal content	powder size	packaging
Sn96,5Ag3Cu0,5	~217°C	printing: ~ 88.5%	type 3	jars :500g
ATL SnAgCu (Anti-tombstone)	~217-227°C	dispensing: ~ 85%	type 4	syringes : 10CC/30CC
Sn99Ag0,3Cu0,7	~217-227°C		type 5 conditional	
Other alloys upon request				other packaging upon request





Profile recommendations for IF 9057

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

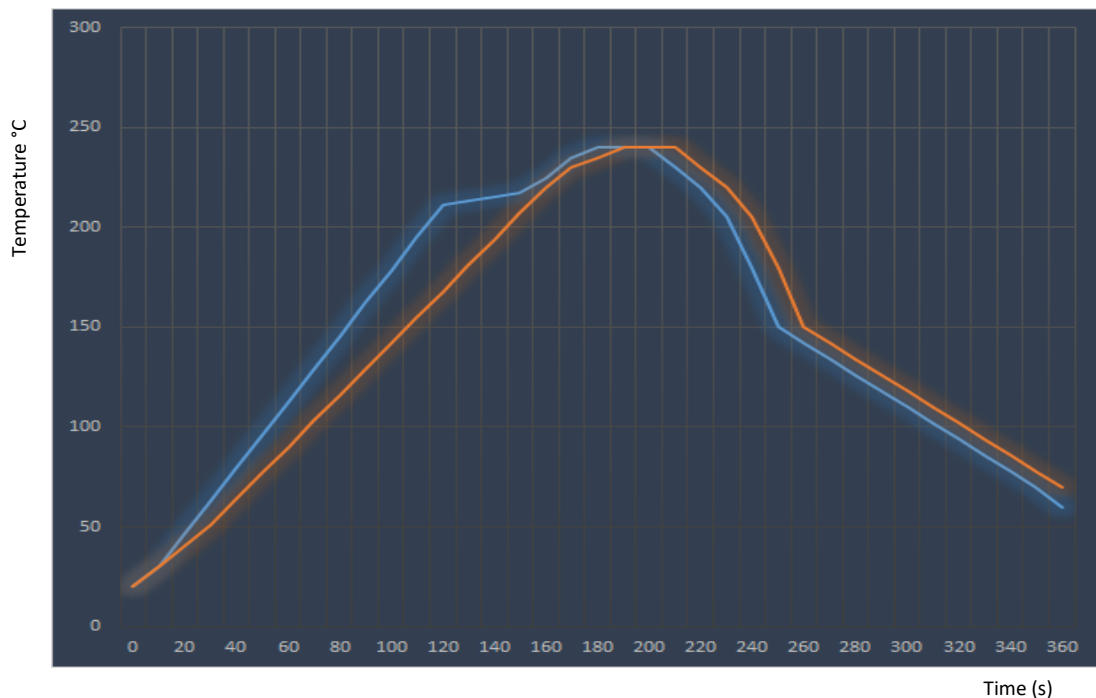
A soak zone between 200°C and 215°C for 0-90s at 0-1°C/s can be used to level out temperature differences and/or reduce voiding.

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 30s 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 7° to 15°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
Chemical		
qualitative copper mirror	pass	J-STD-004A IPC-TM-650 2.3.32D
silver chromate (Cl, Br)	pass	J-STD-004B IPC-TM-650 2.3.33D
fluoride spot test	pass	J-STD-004B IPC-TM-650 2.3.35.1
corrosion test	pass	J-STD-004B IPC-TM-650 2.6.15
flux classification	RO LO	J-STD-004B
spread test	98 mm²	J-STD-004B IPC-TM-650 2.4.46
dryness test	pass	J-STD-004B IPC-TM-650 2.4.47
Environmental		
SIR test	pass	J-STD-004B IPC-TM-650 2.6.3.7
Mechanical		
solder ball test 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 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

Please always consult the safety datasheet of the product.

Operating parameter recommendations

Printing

speed: 25—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 hrs

Reflow

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

I.C.T

flying probe testable
pin-bed testable

Cleaning

Cleaning of the paste from stencils and tools is recommended with Interflux[®] **ISC 8020**.

The post reflow residues of IF 9057 are highly reliable and do not need to be cleaned, however they can be cleaned if desired.

Trade name : IF 9057 No-Clean, Halide Free, Lead-Free Solder Paste

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