



No clean solder paste IF 9009^{LT}

INTERFLUX[®]
ELECTRONCS N.V.



Technical data IF 9009^{LT}

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No-clean, lead free solder paste

Description:

Lead free IF 9009^{lt} is a solder paste for the SnAg and SnAgCu-alloys. It has good tackiness, no slump, good stencil life and tack life.

The solder paste does not contain any rosin: it gives no harmful fumes and less oven maintenance. The residues after reflow are minimal and clear, they are easy to be penetrated by flying probe- and ICT-test pins. IF 9009^{lt} keeps its rheology characteristics during screening, resulting in a stable screen process. IF 9009^{lt} is hydrophobic and gives no solder balling after reflow. The residues can easily be cleaned with Dr. Wack cleaning medium (Zestron FA).



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Key advantages:

- Requires only very low squeegee pressure
- Tack life > 24 hours*
- No disturbing smell
- Excellent wetting on Sn/Pb, Ni/Au, OSP, Ag/Pd
- Low residue after reflow

Availability

alloy	metal content	powder size	packaging
Sn95,5Ag4Cu0,5	printing: 88 – 88,5%	Standard type 3 (25– 45µ)	500g jar
Sn96,5Ag3Cu0,5		other sizes upon request	500g in 6Oz. Cartridge
Sn96,5Ag3,5			1kg—1,2kg—1,3kg in 12 Oz. cartridge
			5—10—30cc syringes
			PuckPack™ and ProFlow™ cassettes

* test conditions upon request

Reflow profile for SnPb and SnPbAg alloys

General description

In general a soak profile is advised and 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 the number of voids, if present because of material combination, need to be decreased.

When soldering in air the profile's peak temperature should occur within a frame time of maximum 300sec or 5 minutes from the profile's starting point.

The correct conveyor speed (m/min) can be calculated by dividing the total chamber length (m) of the heating zones by the desired process time (min). Soldering under nitrogen has fewer

limitations.

When soldering an assembly in a lead free solder 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.

Profile recommendations

Preheat

From room temperature until $\pm 150^{\circ}\text{C}$ at a rate of 1-3 $^{\circ}\text{C/s}$. Faster rates could result in component cracking due to absorbed moisture evaporating.

zone is used to level out temperature differences on a board. It is often used in IR ovens and on boards with a big diversity of components and Cu distribution.

Ramp to reflow

From 170°C to peak temperature.

Maximum 4°C/s because of different thermal expansion coefficients inside the components.

Reflow

Peak temperature related to component specifications, in general from 230°C -

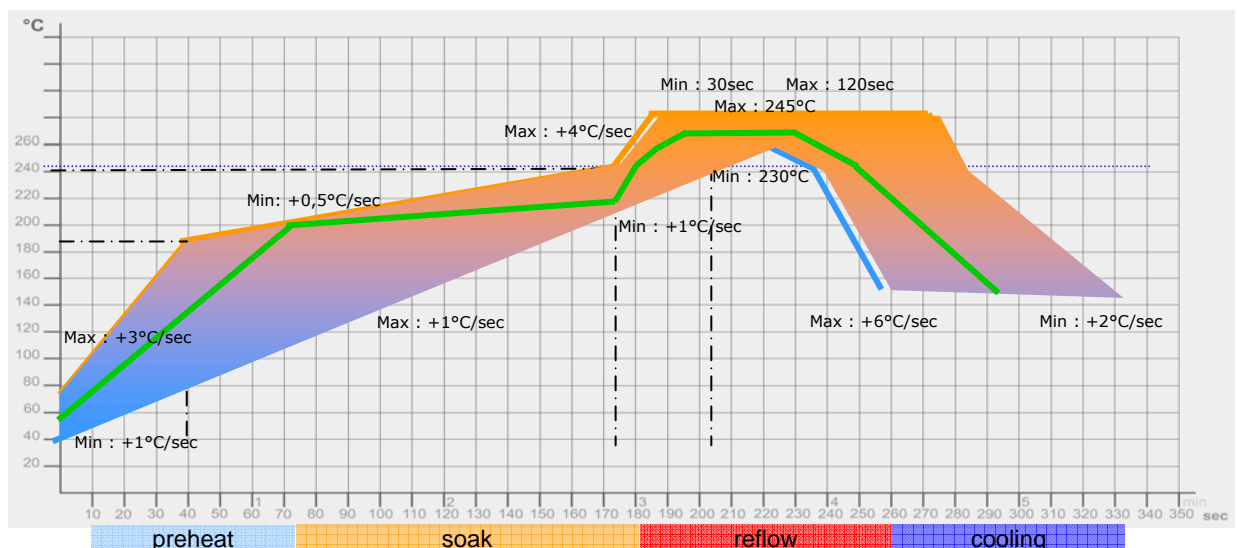
245°C . Time above liquidus: In general 30s-90s

Cool down

Maximum 4°C/s because of different thermal expansion coefficients of the materials involved.

Soak zone

Around 170°C . A soak





Handling

Storage

Store the solder paste in the original packaging, tightly sealed at a preferred temperature of 3° to 7°C

Handling

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

Printing

Apply enough solder paste to the stencil to allow smooth rolling during printing. Regularly replenish fresh solder paste.

Maintenance

Set an under stencil clean interval which provides continuous printing quality.

Reuse

Do not mix used and fresh paste. Do not put packages back into refrigeration when already opened. Store used paste in a separate jar at room temperature.

Reflow

Consult profile

Test results

conform EN 61190-1-2(2002) and IPC J-STD-004A/J-STD-005

Property	Result	Method
Chemical		
qualitative copper mirror	pass	J-STD-004A IPC-TM-650 2.3.32
qualitative halide silver chromate (Cl, Br)	pass	J-STD-004A IPC-TM-650 2.3.33
Environmental		
SIR test	pass	J-STD-004A IPC-TM-650 2.6.3.3

Property	Result	Method
Mechanical		
solder ball test after 15min	preferred	J-STD-005 IPC-TM-650 2.4.43
after 4h	acceptable	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
spread test	137,89 mm ²	J-STD-004 IPC-TM-650, 2.4.46



Operating parameter recommendations

Printing speed: 20—70mm/sec
squeegee pressure: ±250g / cm length
U.S.C. interval: every 10 boards
temperature range: 15°C to 25°C

Dispensing needle gauge: ≤ 22G
needle length: 1/2" (12mm)

Mounting tack time: > 8 hours

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

I.C.T flying probe testable

pin-bed testable

Cleaning safe residues (no-clean formulation)
100% halide free)
no post reflow cleaning necessary, however, residue is easily completely removed
Un-reflowed paste and stencil cleaning recommended with
VIGON® : SC200, SC202, SC400
ZESTRON® : SD300, SD301
ATRON® : SP200
INTERFLUX® : SC8020*

(spray in air in stencil cleaning equipment -* in Under Stencil Cleaners of printers or pre-saturated wipes)

reflowed paste residue is easily removed with following recommended cleaning agents :
VIGON® : A200, A300
ZESTRON® : FA+, VD

D i s c l i m e n t

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