



No clean solder paste NX 9900i

INTERFLUX®
ELECTRONICS N.V.



Technical data NX 9900i

Ver: 1, 20-nov-06

Page 1

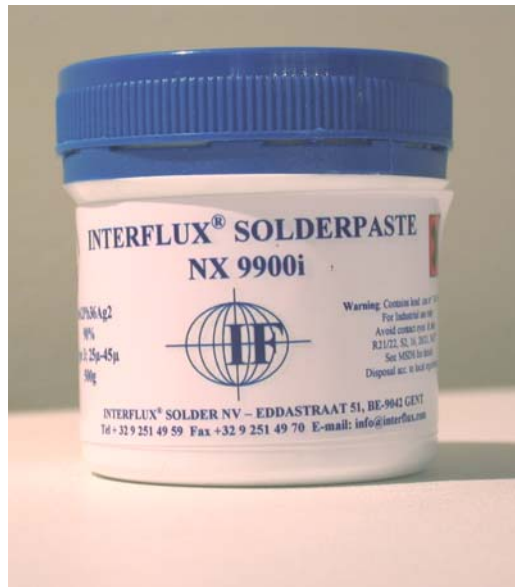
No-clean solder paste

Description:

NX 9900i No Clean solder paste has been carefully formulated to work with open (squeegee) and closed printing systems (i.e. PuckPack⁰).

To deal with process variations, its chemistries offer excellent and repeatable performance on printing, stencil life and tack time combined with a wide reflow window.

NX 9900i is suitable for high printing speeds and for both, high and batch, volume SMT lines



More information:

Reflow profile	2
Profile recommendations	2
Product handling	3
Test results	3
Operating parameter recommendations	4

Key advantages:

- Designed for low and high volume assembly lines using existing print parameters
- Tack-life exceeds 72 hours at 18-25°C and 50-60% R.H. (64F -77F)
- Inhibits solder balling
- Suitable for closed printing systems
- Good wetting on all finishes including OSP
- Increased slump resistance
- Transparent soft residue for easy in-circuit testing

Availability

alloy	metal content	powder size	packaging
Sn63Pb37	84—91%	Standard type 3 (25— 45µ)	500g jar
Sn62Pb36Ag2		other sizes upon request	500g in 6Oz. Cartridge
SnPb - AT			1kg—1,2kg—1,3kg in 12 Oz. cartridge 5—10—30cc syringes PuckPack™ and ProFlow™ cassettes



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 about 120°C at a rate of 1-3°C/seconds.

Higher heating rates could result in component cracking due to absorbed moisture.

Soak

From 130°C to about 170°C at a rate of 0,5-1°C/seconds.

In some cases a temperature holding soak zone is used to level out differences on a board. It is often used on high mix boards or to reduce voids in cer-

tain lead free processes.

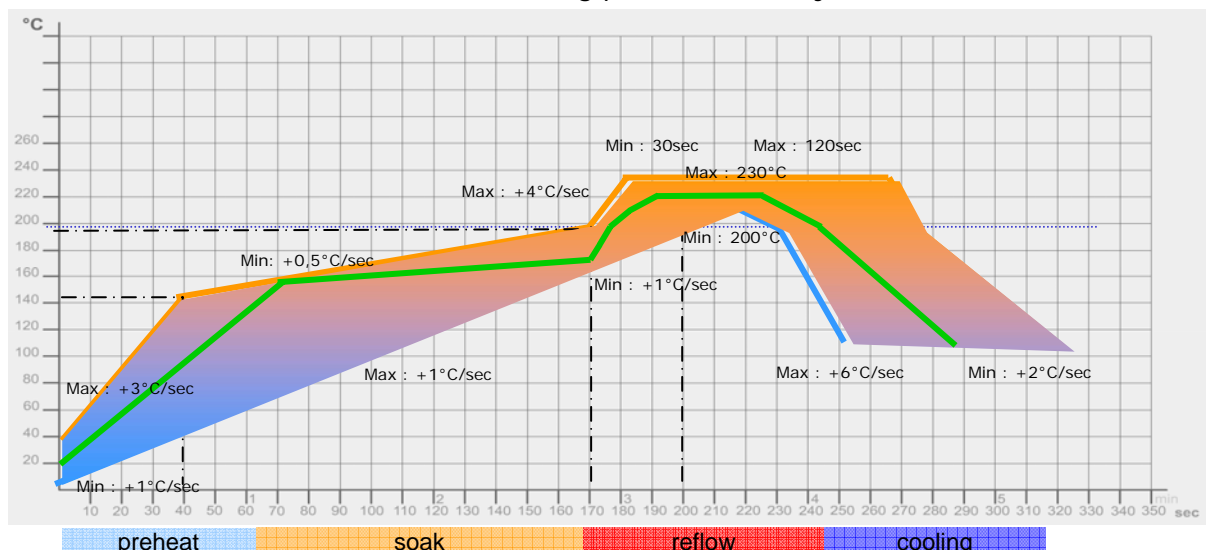
Reflow

Peak temperature used is related to component specifications. In general between 200°C and 230°C. The time in liquidus (over melting point of the alloy

used) could be between 45 seconds and 90 seconds.

Cooling

Cooling rate around -4°C/second because of differences in thermal expansion of different materials





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
spot test (F)	pass	J-STD-004A IPC-TM-650 2.3.35.1
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	preferred	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	pass	J-STD-005 IPC-TM-650 2.4.35
after 4h	pass	J-STD-005 IPC-TM-650 2.4.35



Operating parameter recommendations

P r i n t i n g
speed: 20—150 mm/sec
squeegee pressure: ±250g / cm length
U.S.C. interval: every 15 boards
abandon time: 2 h o u r s
temperature range: 15°C to 25°C

Mounting
tack time: > 24 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 re-
commended 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 r

Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own test to determine the suitability of each such product for their particular purposes. The product discussed is sold without such warranty, either express or implied.

Product information in other European languages can be obtained at Interflux® Electronics NV, 9042 Gent. Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. The products discussed are sold without such warranty, either expressed or implied.

Copyright:

INTERFLUX® ELECTRONICS

For the latest version of this
document please consult:

www.interflux.com