NO CLEAN SOLDER PASTE TYPE IF 9007'

1. Description

The solder paste IF 9007' is a No Clean solder paste, especially developed to work in closed systems like Proflow(Dek), Rheopump(MPM), PuckPack™ and others. It has been tested and approved in these systems. The rheology of the IF9007' allows high printing speeds. The paste doesn't dry out in the head and doesn't drip out of it. Furthermore it offers good tackiness, high stencil life and low residue after soldering. The IF 9007' is also suitable for dispensing.

2. Properties:

- Suitable for high printing speed
- Tack life > 8 hours. (*)
- Stable printing between 18 and 35°C.
- No disturbing smell.
- Excellent wetting on Sn/Pb, Ni/Au,OSP,Ag/Pd.
- No slump.
- Low residue after reflow.
- No In-Circuit-Testing problematic.

(*) Increase tack life by storing printed boards under airtight cover(plastic bag)

3. Standards :

Alloys :	Sn63Pb37 (T_m=183°C) Sn62PbAg2 (T_m=179°C)
Powder size :	75µ-45µ (Type 2) 45µ-25µ (Type 3) 38µ-20µ (Type 4)(*) 25µ-15µ (Type 5)(*)
Metal content :	89% in weight (printing). 84% in weight (dispensing).
Packaging :	Proflow cassette Syringes of 5, 10, 30 cc. Cartridges 0,5 kg, 1 kg PuckPack™ 800g 500g jars
Shelf life :	1 year

(*) On request, adapted metal content possible

4. Test reports

IPC J-STD-004 and J-STD-005.
Siemens approval.

5. Application

5.1 Storage :

Store the solder paste preferably in a refrigerator at about 7°C.

5.2 Handling :

Ensure the paste has reached room temperature to prevent water condensation!

5.3 Printing:

Find the right squeegee and paste pressure at a certain speed . Keep the squeegee pressure constant and raise the paste pressure for higher speeds.

e.g. Dek Proflow: 150mm/s, 6kg , 2.2 bar
PuckPack™: 100mm/s, 0,6 bar

5.4 Reflow :

Reflow can be done in air or in Nitrogen. Generally a Soak Profile (with temperature plateau at 120-150°C) is recommended for IR based ovens and a Ramp Profile (continuous temperature rise) for full convection ovens**. It is important, however, to reduce the exposure time to temperatures between 160°C and the melting point (T_m) to a minimum !** Time above melting point in the reflow zone should be between 30 and 90 seconds, with a peak of 30 to 50°C above T_m

N.V. INTERFLUX® SOLDER S.A. – Eddastraat 51 – BE-9042 Gent
Tel.: ++32-9-251.49.59 – Fax: ++32-9-251.49.70
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6. Cleaning of equipment

Paste removal from the stencil or screen can be done by using **Interflux stencil cleaning wipes**. For underside stencil cleaning we advise **IF 7136** cleaning fluid. We advise not to use alcohol based cleaners(such as isopropyl alcohol) because they or their vapours can dry out the solder paste.

7. Printed boards waiting for assembly

We advise to store printed boards that are waiting for assembly underneath an airtight cover. Cover racks with printed boards for example with a plastic bag. The solder paste can then remain in good condition for 48 hrs.

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TEST RESULTS OF INTERFLUX® IF 9007'

*** Copper mirror test**

Applied Standards: J-STD-004, '95
IPC-TM-650 Method 2.3.32
Requirement: No discoloration or removal of the Cu film
Results: Solder paste : Passed

*** Presence of halides in the flux** (Silver Chromate test paper)

Applied Standards: J-STD-004, '95
IPC-TM-650 Method 2.3.33
Requirement: No colour change
Results: Raw flux: Passed

*** Surface Insulation test**

Applied Standards: J-STD-004, '95
IPC-TM-650 Method 2.6.3.3
Requirement: After 24 hrs, 96 hrs and 168 hrs at 85°C, 85% R.H., with applied bias 50 V DC, must be 1 x 10^8 Ohm or 100 Mohm. (Measurement with 100 VDC)
Results: Passed

	Board 1	Board 2	Board 3	Board 4
Initial value:	2.92 x 10^{12} Ohm	4.56 x 10^{11} Ohm	6.28 x 10^{11} Ohm	4.38 x 10^{11} Ohm
24 hrs:	1.01 x 10^9 Ohm	3.63 x 10^8 Ohm	3.30 x 10^8 Ohm	4.51 x 10^8 Ohm
96 hrs:	1.01 x 10^9 Ohm	3.59 x 10^8 Ohm	2.77 x 10^8 Ohm	3.85 x 10^8 Ohm
168 hrs:	9.99 x 10^8 Ohm	3.36 x 10^8 Ohm	2.20 x 10^8 Ohm	3.11 x 10^8 Ohm
Climatic chamber cooled down, measurement after 24 hour at ambient T°.				
	1.40 x 10^{12} Ohm	1.50 x 10^{12} Ohm	8.52 x 10^{11} Ohm	1.10 x 10^{12} Ohm

Board 1 Control Board
Board 2 Pure flux
Board 3 Ramp profile
Board 4 Ramp profile

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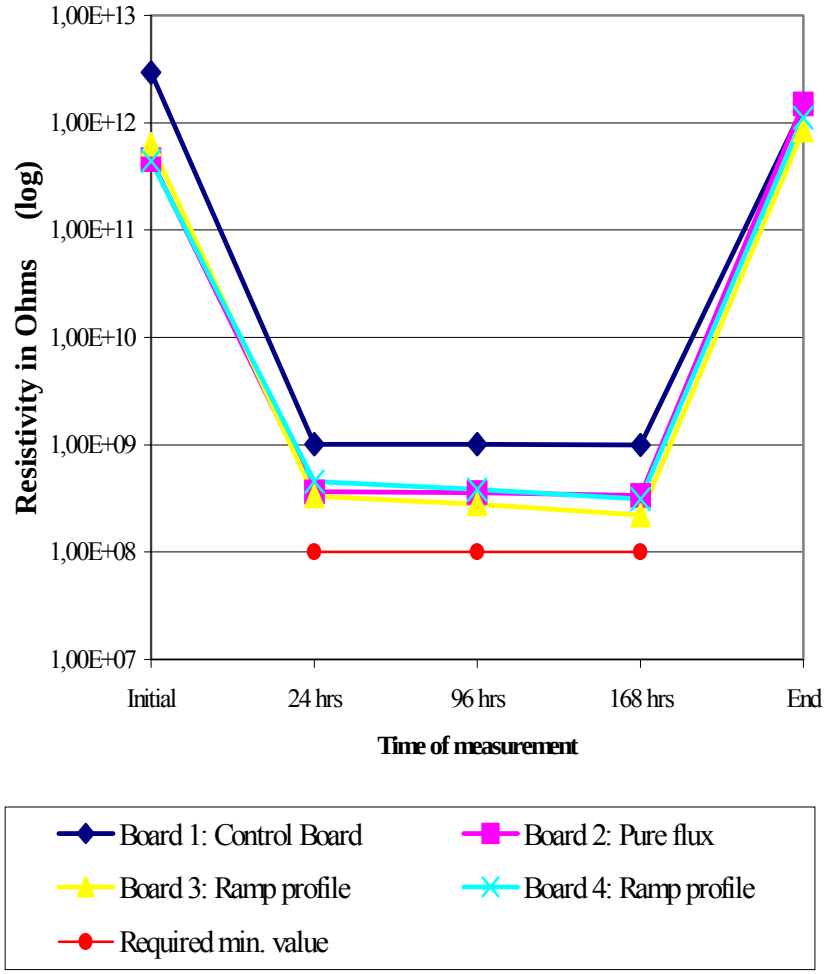
INTERFLUX® SOLDER PASTE
IF 9007'



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*** pH of the 5% aqueous solution**

Applied Standards: Bellcore TR-NWT-000078
Requirement: 3 - 7
Results: Raw Flux : Passed Flux extract : Passed

*** Solderball test**

Applied Standards: J-STD-005, '95
IPC-TM-650 Method 2.4.43
Requirement: Reflow within 15 minutes
Reflow after 4 hours
Results: Reflow within 15 min.: Preferred
Reflow after 4 hrs: Preferred

*** Wetting test**

Applied Standards: J-STD-005, '95
IPC-TM-650, Method 2.4.45
Requirement: Shall uniformly wet the Cu coupon without evidence of dewetting or non wetting
Results: Passed

*** Spread test**

Applied Standards: J-STD-004, '95
IPC-TM-650, Method 2.4.46
Requirement: Solder spread is expressed in mm^2
Results: 90.33 mm^2

*** Slump test**

Applied Standards: J-STD-005, '95
IPC-TM-650, Method 2.4.35
Requirement: 15 min. at 25°C, 50% R.H. and 10 min. at 150°C, no slump effect or bridging may occur.
Results: After 15 min.at 25°C, 50% R.H.: Passed
After 10 min at 150°C: Passed

*** Metal content**

Applied Standards : J-STD-005, >95
IPC-TM-650, Method 2.2.20
Requirement : Expressed in %
Results : 89% (Printing)
84% (Dispensing)

*** The solder powder**

Only high quality solder powders are used.
A certificate of analysis is available on request, including the particle size distribution.
For more information about health and safety we refer to our MSDS.

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