



# NO CLEAN SOLDERPASTE TYPE IF 9006

## 1. Description

The solderpaste IF 9006 is especially developed for fast printing operations, the paste gives very good printing results under high speed and low pressure conditions. The flux media is designed to volatilize at reflow temperatures leaving a non-tacky, transparent residue on the boards which does not need to be cleaned. IF 9006 is hydrophobic, has an excellent glue effect, no smell, no slump and no solderballing after reflow.

## 2. Properties:

- Suitable for high printing speed
- Requires only very low squeegee pressure (increases the stencil and the squeegee life !!)
- Printlife > 8 hours.
- Tacktime > 4 hours.
- Stable printing between 18 and 35°C.
- No disturbing smell.
- Excellent wetting on Sn/Pb, Ni/Au,OSP,Ag/Palladium.
- No slump.
- Very low residue after reflow.
- No In-Circuit-Testing problematic.

## 3. Standards : (\*)

**Alloys :** Sn63/Pb37 ( $T_m=183^{\circ}\text{C}$ )  
Sn62/Pb/Ag2 ( $T_m=179^{\circ}\text{C}$ )  
Sn96Ag4 ( $T_m=221^{\circ}\text{C}$ )  
SnAgCu ( $T_m=217^{\circ}\text{C}$ )

**Powder size :** 75 $\mu$ -45 $\mu$  (normal pitch)  
45 $\mu$ -25 $\mu$  (fine pitch).

**Metal content :** nominal 90% in weight.

**Packaging :** 500 gram jars

**Shelf life :** 1 year

(\*) : others available on request !

## 4. Test reports

Test reports in accordance with IPC J-STD-

004 and J-STD-005 available.

## 5. Application

### 5.1 Storage :

Store the solderpaste in tightly sealed jars, preferably in a refrigerator at about 7°C.

Note : Paste can slightly separate during transport and/or long term storage. Therefore it is advised to mix the paste well before use.

### 5.2 Handling :

Ensure the paste has reached room temperature. Stir well before use.

### 5.3 Printing:

Apply sufficient paste to the stencil to allow smooth even roll during printing. A bead of 1-2 cm is normally sufficient to start. Apply small amounts of fresh solder to the stencil at frequent intervals.

### 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 60 seconds, with a peak of 30 to 50°C above  $T_m$



## TEST RESULTS OF INTERFLUX® IF 9006

### \* 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: 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: Flux extract : 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  $1 \times 10^8$  Ohm or 100 Mohm. (Measurement with 100 VDC)  
Results: Passed

	<u>IF 9006 paste</u>	<u>IF 9006 flux</u>	<u>Control board</u>
Initial value:	$4 \times 10^{12}$ Ohm	$5.7 \times 10^{12}$ Ohm	$1.2 \times 10^{11}$ Ohm
24 hrs:	$2.1 \times 10^8$ Ohm	$3.2 \times 10^8$ Ohm	$4.2 \times 10^8$ Ohm
96 hrs:	$4.6 \times 10^8$ Ohm	$5.7 \times 10^8$ Ohm	$5.9 \times 10^8$ Ohm
168 hrs:	$4.9 \times 10^8$ Ohm	$6.3 \times 10^8$ Ohm	$5.7 \times 10^8$ Ohm

Climatic chamber cooled down, measurement after 24 hour at ambient T°.

$6.1 \times 10^{11}$ Ohm	$5 \times 10^{11}$ Ohm	$6.5 \times 10^{11}$ Ohm
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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: Acceptable

**\* 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: Solderspread is expressed in mm<sup>2</sup>  
Results: 96.23 mm<sup>2</sup>

**\* 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

**\* Metalcontent**

Applied Standards : J-STD-005, '95  
IPC-TM-650, Method 2.2.20  
Requirement : Expressed in %  
Results : 90% (Stencil)



**\* Powder specifications**

Following types are available :

Alloy	Mesh size	Class	Microns
Sn63Pb37	-200 +325	2	75μ - 45μ
Sn63Pb37	-325 +500	3	45μ - 25μ (Fine pitch)
Sn62Pb36Ag2	-200 +325	2	75μ - 45μ
Sn62Pb36Ag2	-325 +500	3	45μ - 25μ (Fine pitch)
Sn96Ag4*	-200 +325	2	75μ - 45μ
Sn96Ag4	-325 +500	3	45μ - 25μ (Fine pitch)
Sn95.5Ag3.8Cu0.7*	-200 +325	2	75μ - 45μ
Sn95.5Ag3.8Cu0.7	-325 +500	3	45μ - 25μ (Fine pitch)

\* on request

Only high quality solderpowders are used.

A certificate of analysis is available on request, including the particle size distribution.

Paste removal from the stencil or screen can be done by using Isopropanol, other solvents alcohol based or by using a basic soap and hot water.

For more information about health and safety we refer to our MSDS.

Product information in other European languages can be obtained at *Interflux® Solder 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.

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