



NO CLEAN SOLDERPASTE TYPE EC1001

1. Description

This paste allows to accommodate a variety of environments and wide process window applications. The paste gives very good printing results under high speed conditions. The flux media is to volatilise at reflow temperatures and is hydrophobic. EC1001 formulation is designed specifically to have excellent tack time, superior slump resistant and very good wetting. The solderpaste EC1001 is performing in certain operations where environmental control is not at its optimum. Post-process residues may remain on the PCB in RF designs without cleaning. Above 2 gigahertz, cleaning may be required. The EC1001 is easy to clean with the new developed cleaning agents that are available on the market (solvent- or water-based).

2. Properties:

- Suitable for high printing speed
- Printlife > 8 hours.
- Tacktime > 4 hours.
- Excellent wetting on Sn/Pb, Ni/Au,OSP.
- No slump.
- 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 μ -45 μ (normal pitch)
45 μ -25 μ (fine pitch).

Metal content : nominal 90% in weight.

Packaging : 500 gram jars
500 gram cartridges

Shelf life : 1 year

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® EC 1001

* 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

* 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 1×10^8 Ohm or 100 Mohm. (Measurement with 100 VDC)
Results: Passed

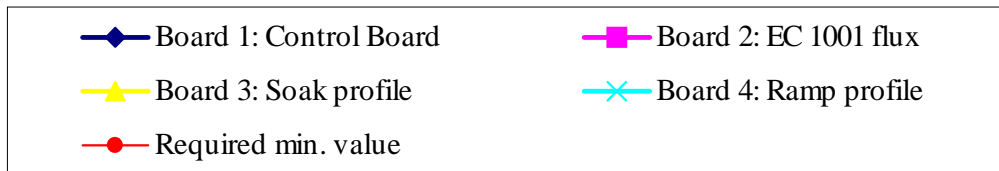
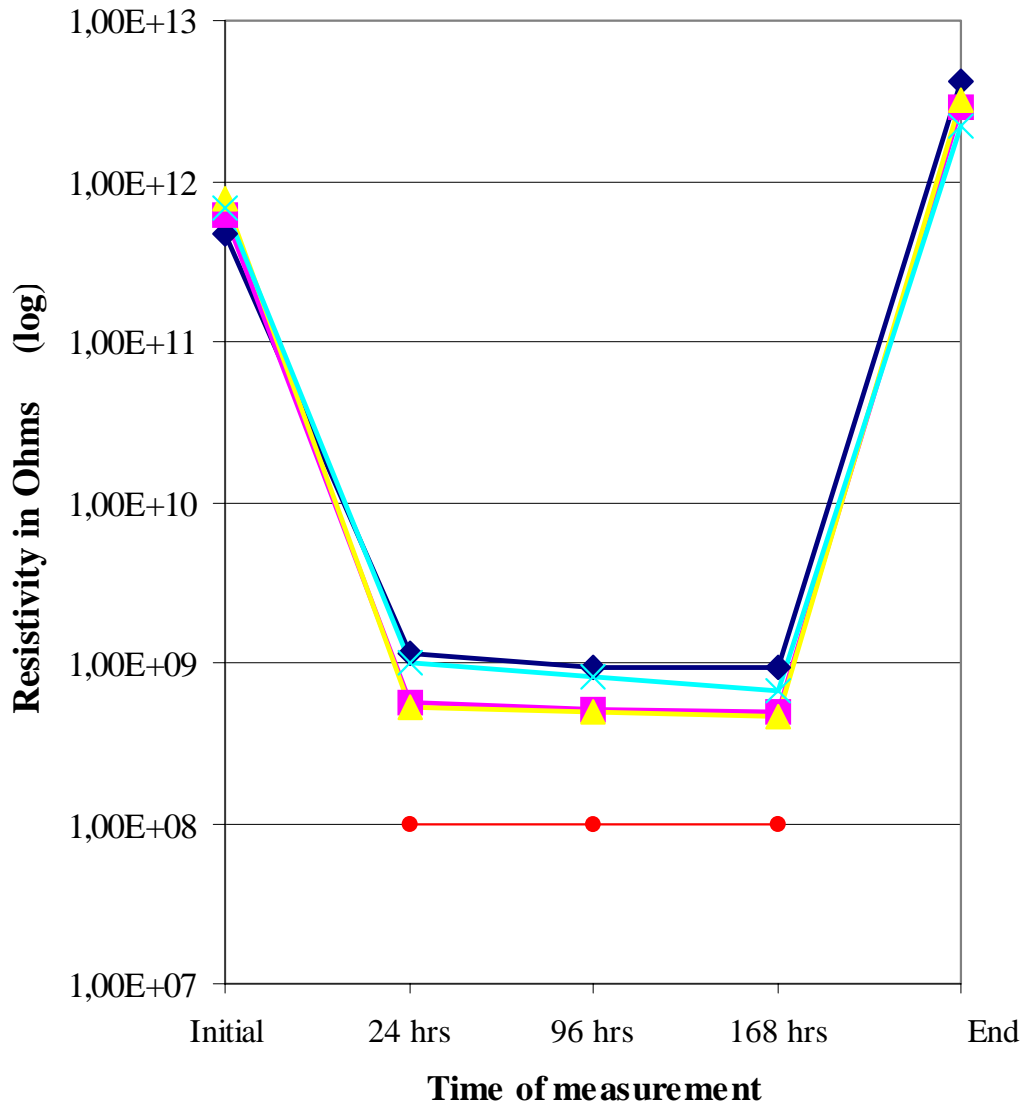
	<u>Board 1</u>	<u>Board 2</u>	<u>Board 3</u>	<u>Board 4</u>
Initial value:	4.69×10^{11} Ohm	6.13×10^{11} Ohm	7.76×10^{11} Ohm	6.86×10^{11} Ohm
24 hrs:	1.15×10^9 Ohm	5.6×10^8 Ohm	5.25×10^8 Ohm	1.01×10^9 Ohm
96 hrs:	9.35×10^8 Ohm	5.18×10^8 Ohm	4.97×10^8 Ohm	8.08×10^8 Ohm
168 hrs:	9.32×10^8 Ohm	4.89×10^8 Ohm	4.64×10^8 Ohm	6.69×10^8 Ohm

Climatic chamber cooled down, measurement after 24 hour at ambient T°.
 4.24×10^{12} Ohm 2.92×10^{12} Ohm 3.21×10^{12} Ohm 2.19×10^{12} Ohm

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



INTERFLUX[®] SOLDERPASTE EC 1001





*** 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: Solderspread is expressed in mm²
Results: 146.2 mm²

*** 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.

Copyrights reserved to Interflux® Solder NV