



Solder paste

DP 5600

INTERFLUX®
ELECTRONICS N.V.



Technical data DP 5600

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No-clean, halide free, solder paste for low melting point lead-free alloys

Description

DP 5600 is a no-clean halide free solder paste for low melting point SnBi(Ag) alloys.

The solder paste is typically being used for soldering components with sensitivity to high temperatures, like e.g. LEDs, Elcos, components with plastic bodies, etc... Another field of use is the soldering of shieldings.

DP 5600 shows good wetting and spreading on many surface finishes.

DP 5600 is halide free providing optimal reliability after soldering.

The residues after reflow are minimal and clear.

DP 5600 is classified as **RO LO** according to IPC and EN standards.



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Key advantages:

- Good wetting on many surface finishes
- Low residue after reflow
- Absolutely halogen free

Availability

alloy	metal content	powder size	packaging
	printing: 90%	standard type 3 (25— 45µ)	500g jar Other packaging upon request
Sn42Bi58	138°C		
Sn42Bi57Ag1	139°C		



Reflow profile

General

In general a profile with limited soak is advised. Also ramp profiles and soak profiles are possible. Soak profiles 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 voids, if present, need to be decreased.

When soldering an assembly, care must be taken not to over-heat components especially when using air convection or IR ov-

ens. 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 for SnBi and SnBiAg alloys

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

Between about 100°C and 120°C, a temperature holding soak zone

is often used at a rate of 0°C/s - 1°C/s to level out differences on a board. It is often used on high mix boards or to reduce voids.

Ramp-up to reflow

Maximum 4°C/s because of differences in thermal expansion of different materials on

the PCB.

Reflow

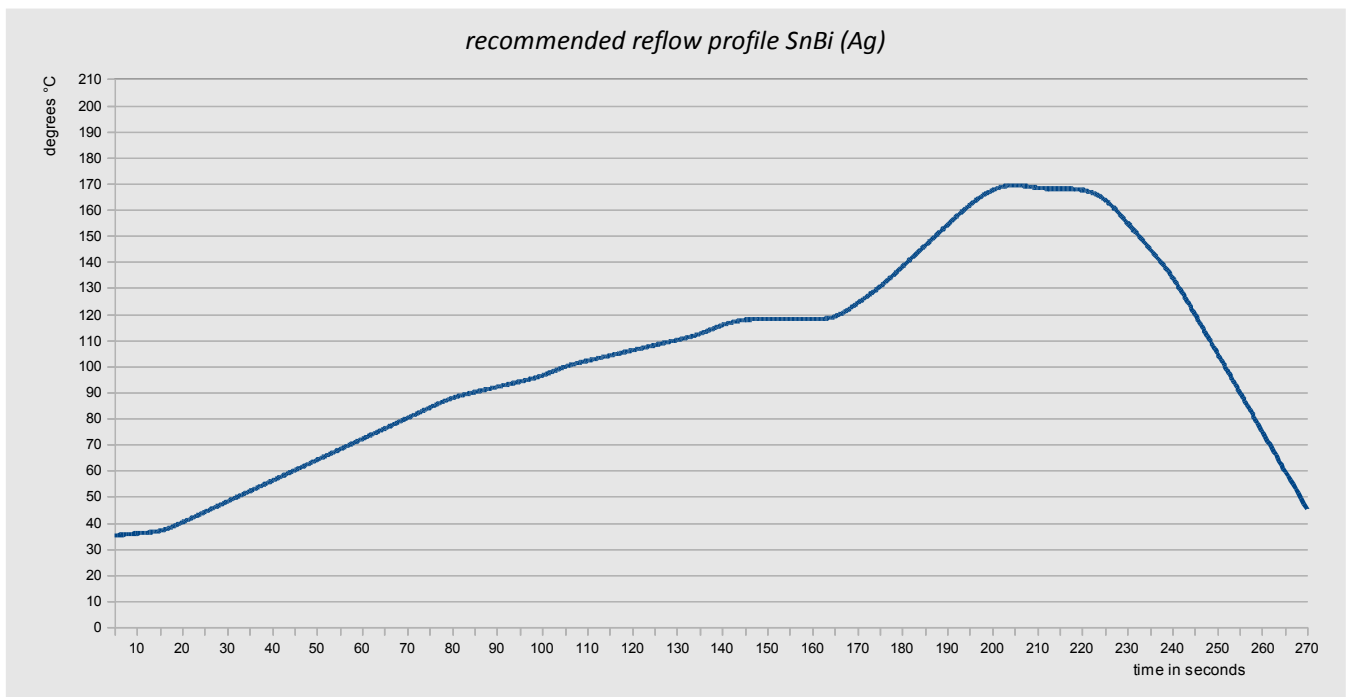
Peak temperature used is related to alloy melting point. In general between 160°C and 190°C. The time in liquidus (over melting point of the alloy used) could be between 30 seconds and 90 seconds.

NiAu (ENIG) board fin-

ishes will require a higher peak temperature to get nice and even solder joint cosmetics.

Cooling

Cooling rate around -4°C/s 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. Shelf life 4 months.

Handling

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

Printing

Assure good sealing between PCB and stencil. Apply no more than enough squeegee pressure to get a clean stencil. Apply enough solder paste to the stencil to allow smooth rolling during printing. Regular replenish fresh solder paste.

Maintenance

Set an under stencil clean interval which provides continuous printing quality. **ISC8020** is recommended as cleaning agent in pre saturated wipes and USC liquid.

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. A test board before reusing in production is advisable.

Test results

conform IPC J-STD-004A/J-STD-005

Property	Result	Method
Chemical		
qualitative copper mirror	pass	J-STD-004A IPC-TM-650 2.3.32
halide content	0,0%	J-STD-004A IPC-TM-650 2.3.28.1
silver chromate (Cl, Br)	pass	J-STD-004A IPC-TM-650 2.3.33
flux classification	RO L0	J-STD-004A
Environmental		
SIR test	pass	J-STD-004A IPC-TM-650 2.6.3.3

Property	Result	Method
Mechanical		
solder ball test after 15min	pass	J-STD-005 IPC-TM-650 2.4.43
after 4h	pass	J-STD-005 IPC-TM-650 2.4.43
wetting test	pass	J-STD-005 IPC-TM-650 2.4.45
slump test 15min at 25°C	pass	J-STD-005 IPC-TM-650 2.4.35
after 15min at 120°	pass	IF SLMP SnBi(Ag)



Operating parameter recommendations

Printing
speed: 25—100 mm/sec
squeegee pressure: 250g—350g/cm
length
U.S.C. interval: every 10 boards
temperature range: 15°C to 25°C

Mounting
tack time (@23°C and 50% r.H.): >8 hours

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

Residue after reflow: 5% w/w

Trade name: DP 5600 No-Clean, Lead Free Solder Paste

D i s c l a i m e r

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