Solder Paste
DP 5505IC

INTERFLUX® ELECTRONICS N.V.

Technical data DP 5505IC

Ver: 3.12 30-09-15

RoHS compliant

No-clean, halide free, lead-free solder paste

Description

DP 5505IC is a no-clean, absolutely halide free and lead-free solder paste with a wide process window. It is an optimised version of the DP 5505.

The solder paste has a high stability in the production environment. It keeps its properties for a long time under different atmospheric conditions. The paste has high resistance against moisture and elevated temperatures.

Furthermore, the chemistry of **DP 5505IC** has been designed to minimize void formation.

The solder paste works also perfectly in vapour phase soldering.

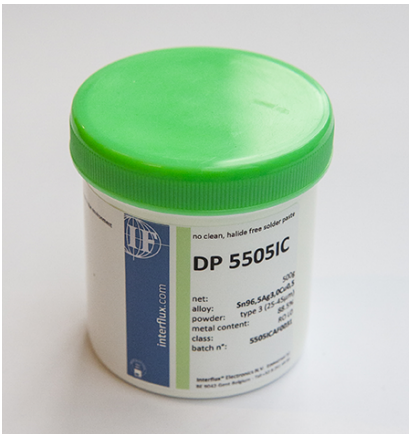
DP 5505IC is absolutely halide free providing optimal reliability after soldering.

The residues after reflow have optimised cleaning ability.

Residues are smooth and clear, they are easy to be penetrated by flying probe- and ICT-test pins.

The product has no more need for safety labelling (GHS).

DP 5505IC is classified as **RO L0** according IPC and EN standards.



Products pictured may differ from the product delivered

Availability

alloy	metal content	powder size	packaging
Sn96,5Ag3Cu0,5 Sn95,5Ag3,8Cu0,7 Sn95,5Ag4Cu0,5 Sn99Ag0,3Cu0,7 Sn98,5Ag0,8Cu0,7 Sn95,8Ag4,2 Sn99,3Cu0,7 Other alloys upon request	printing: 88-90% dispensing: 85%	Standard type 3 (25— 45µ) Type 4 and type 5 available for certain alloys	jars :250g/500g cartridges: 6Oz: 500g/600g/700g 12Oz: 1kg/1,2kg/1,3kg/1,5kg syringes : 5CC/10CC/ 30CC other packaging upon request

More information:

Key advantages:

- High stability / High stencil life
- Wide process window
- Low voiding
- Perfect for vapour phase soldering
- Optimised cleaning ability
- Smooth and minimal residue after reflow
- Absolutely halogen free
- No more safety labelling (GHS)

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Reflow profile for SAC, SnCu and SnAg alloys

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 in a lead-free reflow soldering 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 (SnAgCu, SnCu and SnAg type alloys)

Preheat

From room temperature until about 200°C at a rate of 1-3°C/s. Higher heating rates could result in component cracking due to absorbed moisture that evaporates too fast.

Soak

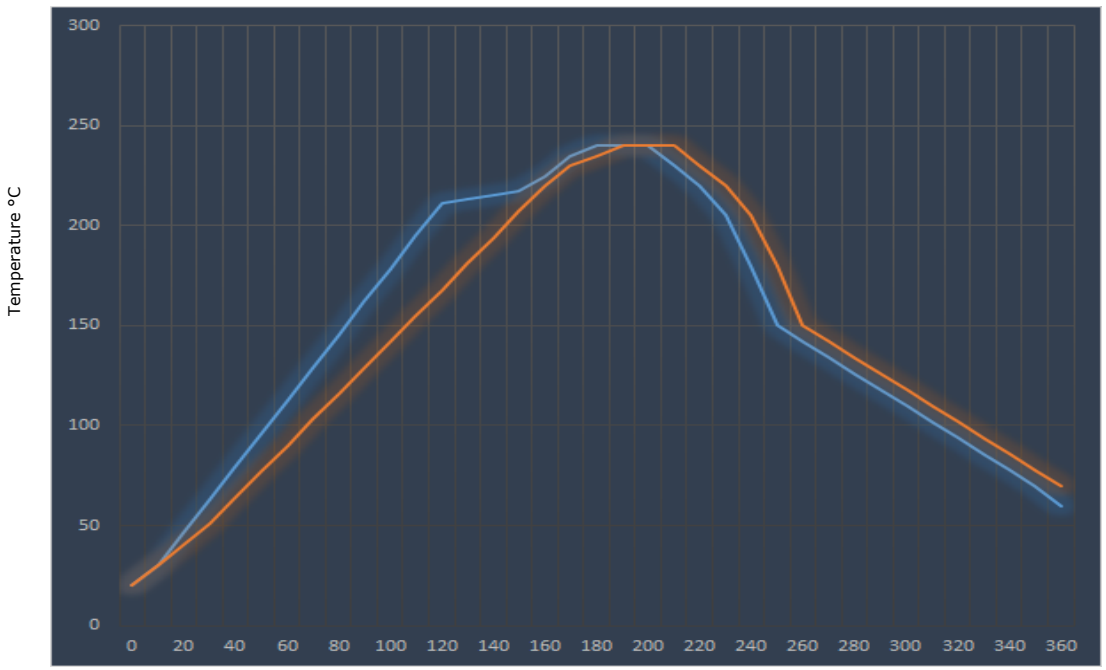
From 180°C to about 215°C at a rate of 0-1° C/s.
In some cases a temperature holding soak zone is used to level out differences on a board. It is often used on high mix boards or to reduce voids. A 20-90 sec soak between 200°C and 215°C is often being used for this purpose.

Reflow

Peak temperature used is related to component specifications. In general between 235°C and 250°C. The time in liquidus (over melting point of the alloy used) could be between 45s and 90s.

Cooling

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



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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

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. **IS-C8020** is recommended as cleaning agent in pre saturated wipes and USC liquid.

Reuse

Avoid mixing used and fresh paste. Do not put packages back into refrigeration when already opened. Store used paste in a closed separate jar at room temperature. A test board before re-using in production is advisable.

Test results

Property	Result	Method
Chemical		
qualitative copper mirror	**pass**	J-STD-004A IPC-TM-650 2.3.32
halide content	**0,00%**	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	after 15min at 25°C	**pass**	J-STD-005 IPC-TM-650 2.4.35
	after 10min at 150°C	**pass**	J-STD-005 IPC-TM-650 2.4.35

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Health and safety

DP 5505IC has been optimised from a health and safety perspective. It has no need for the safety labelling (GHS) that most solder pastes on the market have.

GHS07

GHS 07 is a health hazard pictogram commonly used for solder pastes.

DP 5505IC has no need for this pictogram.

Please always consult the safety datasheet of the product.

Trade name : DP 5505IC Low voiding, No-Clean, Halide Free, Lead Free Solder Paste

D i s c l a i m e r

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