



Dip paste **μ-dIFe 7**

INTERFLUX®
ELECTRONICS N.V.



Technical data μ-dIFe 7

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

Description

μ-dIFe 7 is a halide free, no-clean and lead-free dip paste.

This solder paste has been designed for processes where the paste is applied by dipping, which is most suitable for components with ball grid arrays, gull wing and J-leads.

In rework, as with the ERSA Dip&Print Station, applying a solder paste by dipping, will give a repeatable and selective paste volume. This can result in a serious reduction of residues after soldering as well as of process time.

The amount of paste that sticks to the component when dipping, in general, is less than when stencil printing. This can avoid typical failures like bridging between the balls of (μ-)BGAs and CSPs.

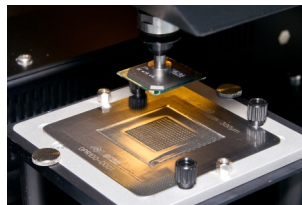
The maximum immersion depth in the dip paste is determined by the height of the component. The body of the component cannot make contact with the dip paste.

μ-dIFe 7 is absolutely halide free, providing optimal reliability after soldering.

The paste is classified as RO/L0 according to IPC and EN standards.



Products pictured may differ from the product delivered



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Key advantages:

- Selective application
- Low residue
- Reduced process times in rework
- Reduced bridging when assembling (μ-)BGAs and CSPs.
- Absolutely halogen free

Availability

alloy	metal content	powder size	packaging
Sn96,5Ag3Cu0,5	70%	Standard type 5	5CC Syringe with plunger 10CC Syringe with plunger 30CC Syringe with plunger



Reflow profile

General

Rework units usually have the capability to generate a heating profile that quite closely resembles the desired profile. In a reflow oven this is much more difficult.

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 solder process, care must be taken not to overheat components especially when using air con-

vection 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 convey-

or chain, in the middle of the board and close to, or on heat sinks.

Profile recommendations

Preheat

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

Soak

From 180°C to about 215°C at a rate of 0-1°C/seconds. 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 in certain lead-free process-

es. A 20-90 sec soak between 200°C and 215°C is often used for this purpose.

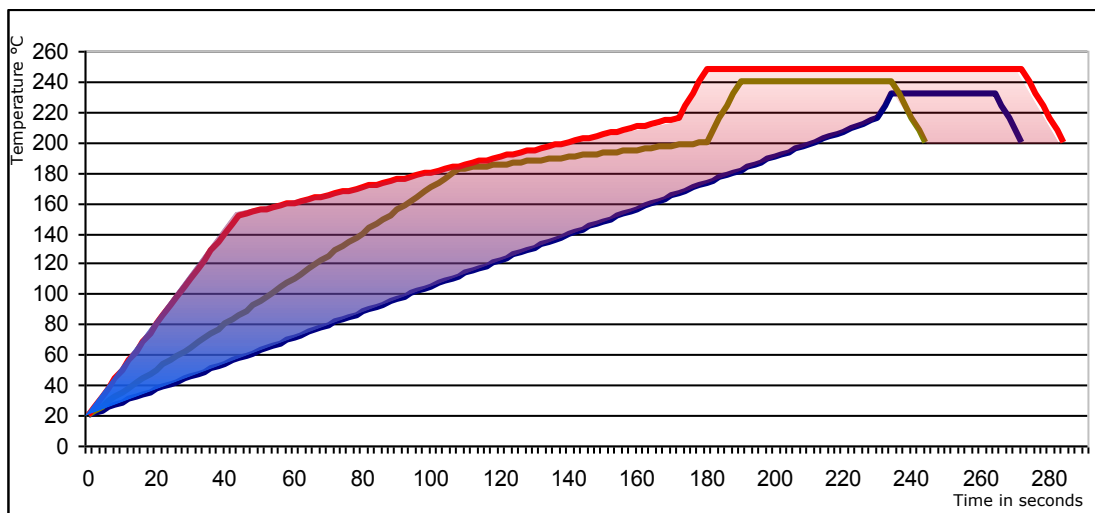
Reflow

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 45 seconds and 90 seconds.

Cooling

Cooling rate around -4°C/second 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

Handling

Allow the solder paste to reach room temperature in a closed condition.

Dipping

When dipping the component into the dip paste, it is advisable not to allow contact between the body of the component and the paste. The maximum immersion depth depends on the physical dimensions of the component. Once this depth is determined, it can be achieved by e.g. printing a volume of paste with a stencil that has the thickness of the immersion depth, and then dipping the component.

Some Pick and Place machines have dipping units. Also here the right immersion depth is important. An equalizing of the surface of the paste before dipping is advisable.

Dipping in general applies less paste than stencil printing.

When reworking a component, usually a hollow soldering tip is used to clean the pads, leaving a certain amount of solder on the pads.

Reuse

Open time of the paste is about 4 hours at 20°C and 40-60% R.H.

Do not put used paste back into refrigeration. Test before reuse.

Safety

Please always consult the safety datasheet of the product.

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	0,00%	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 IPC-TM-650 2.3.28.1
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
spread test	82,15mm²	J-STD-005 IPC-TM-650 2.4.46
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



Packaging

5CC Syringe with plunger
10CC Syringe with plunger
30CC Syringe with plunger

Trade name: μ -dIFe 7 No-Clean, Lead Free Ball Dip Paste

D i s c l i m e r

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