BGA gel flux series
IF **8300**

INTERFLUX®
ELECTRONICS N.V.

No-clean, halide free tacky gel flux

Description:

Interflux® IF 8300 is a no-clean, halide free tacky gel flux.

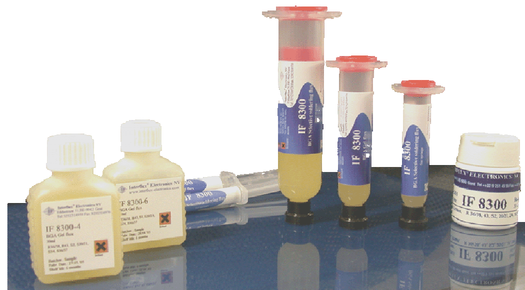
The IF 8300 gel flux series is compatible with both lead-free and lead containing alloys.

IF 8300 series provides resin-like rheological properties.

IF 8300 exhibits good wetting on virtually all surface finishes including OSP, NiAu, I-Sn...etc.

The residue is minimal and transparent and does not require any cleaning.

The **IF 8300** series can be applied by printing, dispensing or by brush. **IF 8300** is available in different viscosities for different applications.



Physical and chemical properties:

State	:	viscous
Colour	:	yellow
Odour	:	sweet, mild
Halide content	:	none
pH (5% aq.sol)	:	3
IPC/ EN	:	RE L0

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Key advantages:

- True halogen free
- Classification to IPC and EN: **RE L0**
- Excellent wetting on Sn/Pb, Ni/Au, OSP, Ag/Pd

Availability

	IF 8300	**IF 8300-4**	**IF 8300-6**
Flash point	158 °C	144 °C	137 °C
Solubility in water	insoluble	insoluble	insoluble
Auto-ignition point	> 370 °C	> 370 °C	> 370 °C
Specific gravity	1,032 g/ml	1,020 g/ml	1,013 g/ml
Viscosity at 20 °C	± 210.000 cPs	± 70.000 cPs	± 25.000 cPs

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Reflow profile

General description

In general a soak profile is advised and 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 the number of voids, if present because of material combination, need to be decreased.

When soldering in air the profile's peak temperature should occur within a frame time of maximum 300sec or 5 minutes from the profile's starting point.

The correct conveyor speed (m/min) can be calculated by dividing the total chamber length (m) of the heating zones by the desired process time (min). Soldering under nitrogen has fewer limitations.

When soldering an assembly in a lead free solder 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 SnPb and SnPbAg alloys

Preheat
From room temperature until ±150°C at a rate of 1-3 °C/s. Faster rates could result in component cracking due to absorbed moisture evaporating.

Soak zone
Around 150°C. A soak zone is used to level out temperature differences on a board. It is often used in IR ovens and on boards with a big diversity of components and Cu distribution.

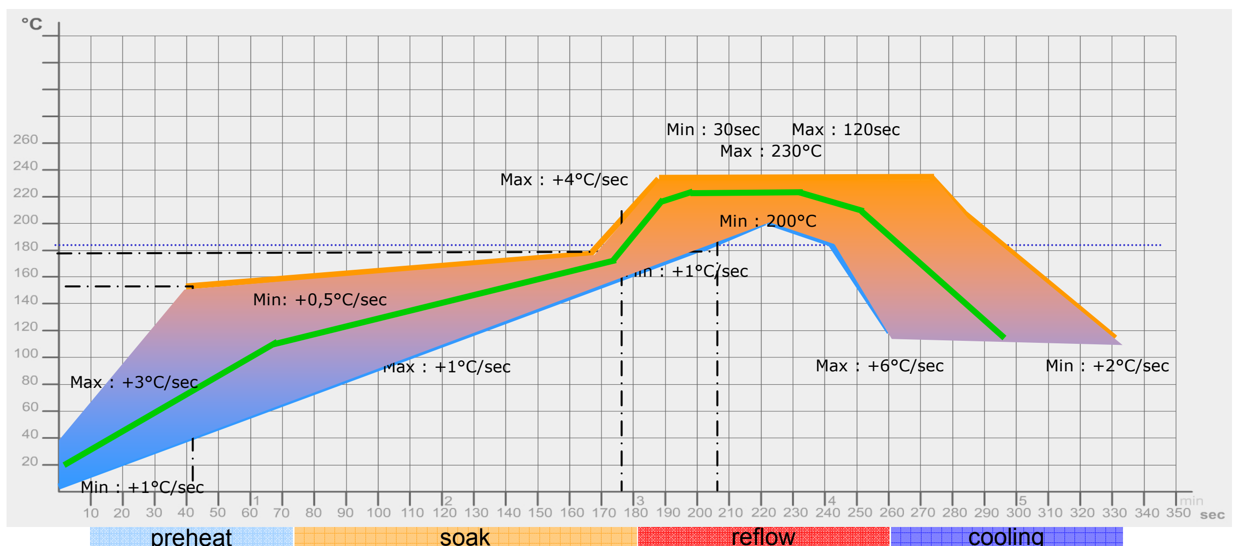
Ramp to reflow
From 150°C to peak temperature. Maximum 4°C/s because of different thermal expansion coefficients inside the components.

Reflow

Peak temperature related to component specifications, in general from 205-230°C. Time above liquidus: In general 30s-90s

Cool down

Maximum 4°C/s because of different thermal expansion coefficients of the materials involved.



Profile recommendations SAC and SnAg alloys

Preheat
From room temperature until ±150°C at a rate of 1-3 °C/s. Faster rates could result in component cracking due to absorbed moisture evaporating.

Soak zone
Around 170°C. A soak zone is used to level out temperature differences on a board. It is often used in IR ovens and on boards with a big diversity of components and Cu distribution.

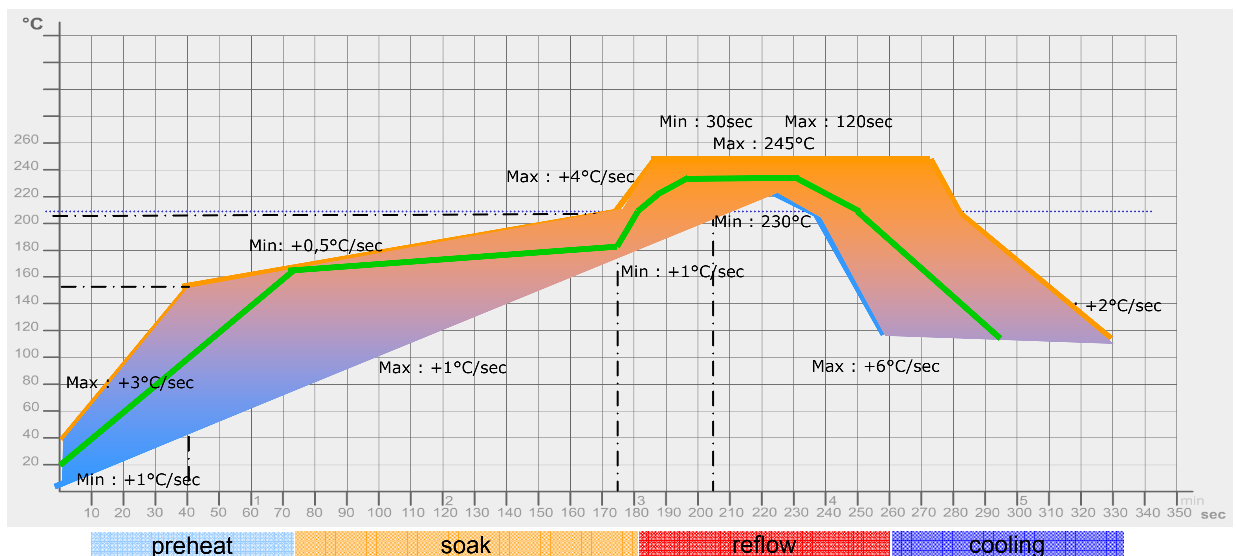
Ramp to reflow
From 170°C to peak temperature. Maximum 4°C/s because of different thermal expansion coefficients inside the components.

Reflow

Peak temperature related to component specifications, in general from 230-245°C. Time above liquidus: In general 30s-90s

Cool down

Maximum 4°C/s because of different thermal expansion coefficients of the materials involved.



Test results

conform EN 61190-1-2(2002) and IPC J-STD-004A

Property	Result	Method
Chemical		
copper mirror	**pass**	J-STD-004A IPC-TM-650 2.3.32
qualitative halide		
silver chromate (Cl, Br)	**pass**	J-STD-004A IPC-TM-650 2.3.33
acid value by titration	**28,9**	mg KOH/g
Environmental		
SIR test	**pass**	J-STD-004A IPC-TM-650 2.6.3.3

D i s c l a i m e r

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