



## Reduced VOC, no-clean, halide free soldering flux

### Description:

**IF 3006** is a no-clean, halide free soldering flux with a reduced VOC content.

Compared to alcohol based fluxes, IF 3006 reduces VOC-emissions with about 25% when spray fluxing and up to 60% when foam fluxing.

There is no need to adjust the pre-heating when changing over from an alcohol based flux to IF 3006.

The flux is absolutely halogen free, guaranteeing a high reliability after soldering.

IF 3006 can be used for wave soldering, selective soldering and dip tinning.

It is compatible with lead-free and SnPb alloys.

IF 3006 produces high first pass yield in ICT because of its bodiless technology.



*Products pictured may differ from the product delivered*



### Key properties

- Reduces VOC-emissions
- Resists high temperatures
- Wide process window
- Improved through hole filling
- Suitable for spray, foam and dip fluxing
- Absolutely halogen free

### Physical and chemical properties

Density at 20°C	0,865 g/ml ± 0,015
Colour	Clear, colourless
Odour	alcohol
Solid content	3,2% ± 0,4
Water content	+/- 25%
Halide content	none
Flash point (T.O.C)	41°C
Total Acid Number	26 mg KOH/g ± 2
IPC/ EN	OR/ L0



## Applying the flux

**Foam fluxing:** Start with a clean foam stone in a clean fluxer unit. The flux level should be about 5 cm over the top of the foam stone. Increase the air pressure until you get a fine linear bubble formation on the top of the foam nozzle. Always use an air knife to eliminate drop formation between SMD components.

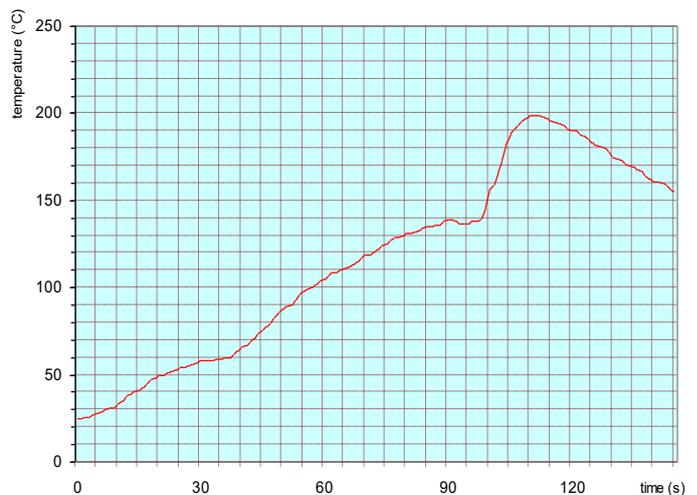
**Spray fluxing:** It is advised to use a double spray stroke during fluxing, whenever possible and to keep the flux air pressure low. The nozzle traverse speed is set to a value which ensures that every point on the board is sprayed twice, (once from each side). Resulting in a 50% overlap on the spray pattern. This will give the most uniform spray pattern coverage. Spray pattern coverage can be checked by passing a piece of cardboard through the spray fluxer. Remove it before the preheat unit. Additionally the spray fluxer settings need to be checked by passing a glass plate or empty circuit board through the fluxer. Remove it from the machine before it reaches the pre heater unit and check it on flux quantity. There may be no drops present. Drops are a sign of excessive flux and are difficult to evaporate. Reduce the flux amount until defects typical for a too low flux amount like, webbing, flagging, shorts and icicles are observed. From this point increase the flux level again until defects disappear.

## Preheating

The recommended preheat temperature measured on the topside of the boards is 80°C-160°C. This value is retrieved from field experience. The flux can have lower preheating temperatures but the solvent should be evaporated before wave contact. The flux can have higher preheating temperatures but beware not to exhaust the flux. If possible avoid hot air convection preheating temperatures above 150°C.

Preheat slope: 1-3°C/s

Always take into account the physical properties of the board, components and soldering application in order to get an optimal final result.



Example of a measured temperature profile



## Wave contact

Typical wave contact or dwell time value is 3-4s when using a single solder wave. For double wave soldering systems typical values are 1-2s for the first wave and 2-4s for the second wave. Lower total dwell time limit is 2s. Solder wetting can be optimal at lower contact times however longer contact times facilitate total flux wash off from the boards. The maximum upper limit will be determined by flux exhaustion and physical limitations of the board and components. Indications for flux exhaustion are bridging, icicling, webbing,...

## Test results

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

Property	Result	Method
<b>Chemical</b>		
Flux designator	<b>OR L0</b>	J-STD-004A
Qualitative copper mirror	<b>pass</b>	J-STD-004A IPC-TM-650 2.3.32
Qualitative halide		
Silver chromate (Cl, Br)	<b>pass</b>	J-STD-004A IPC-TM-650 2.3.33
Quantitative halide	<b>0,00%</b>	J-STD-004A IPC-TM-650 2.3.35
<b>Environmental</b>		
SIR test	<b>pass</b>	J-STD-004A IPC-TM-650 2.6.3.3
Qualitative corrosion, flux	<b>pass</b>	J-STD-004A IPC-TM-650 2.6.15
ECM 40°C, 93% RH, 5 VDC	<b>pass</b>	Siemens ZT test protocol

## Handling

### Storage

Store the flux in the original packaging, tightly sealed at a preferred temperature of +5° to +25°C.

### Safety

IF 3006 is flammable. Please always consult the safety datasheet of the product.



## Packaging

IF 3006 is available in the following packages:

1L HDPE bottle

10L and 25L HDPE drums

200L HDPE barrel

Other packaging available upon request.

Trade name : IF 3006 Low VOC No-Clean Soldering Flux

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