VOC free, no-clean, halide free soldering flux for foam applications

Description:

PacIFic 2010F is a water based, no-clean soldering flux that has been developed for application by foam fluxing. Application by spraying or dipping is also possible.

The flux is environmentally friendly and does not contain any volatile organic compounds (VOC free).

PacIFic 2010F is absolutely halogen free, making it a very safe flux with high reliability properties.

The flux has very low residue formation. Furthermore, it does not contain rosins nor resins. This will result in very low ICT contact problems.

PacIFic 2010F can be used for both SnPb and lead-free soldering applications.

RoHS compliant

Physical and chemical properties	
Density at 20°C	1,00 g/ml ± 0,01
Colour	clear
Odour	sweet
Solid content	2,5 % ± 0,15
Halide content	none
Flash point (T.C.C)	n.a.
Total Acid Number	16mg KOH/g ± 2
IPC/ EN	OR/ L0

Products pictured may differ from the product delivered

Key properties

- Suitable for foam fluxing
- Absolutely halide free
- 100% water based
- Practically odourless
- Clean boards after soldering
- No ICT contact problems

Why VOC-free?

→ No risk of fire caused by flux ignition
→ No Volatile Organic Compounds (VOC) emission caused by flux evaporation
→ No alcohol smell in the production area caused by flux evaporation
→ No use of flux thinner
→ No need for monitoring of flux solid content
→ Lower flux transport, storage and insurance costs
→ A general reduction of flux consumption up to 30% (for spray applications)

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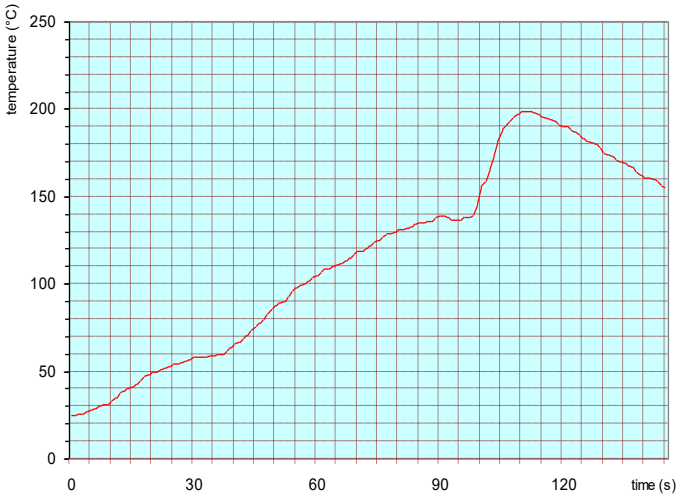
Applying the flux

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. After intensive use there can be a formation of some thick foam on the top of the flux that does not disappear. This is an indication to change the flux.

Spray fluxing: It is advised to use a double spray stroke during fluxing, whenever possible and to keep the flux air pressure low enough to avoid flux being forced in between the PCB and soldering carrier. The nozzle traverse speed should be set to a value which ensures that every point on the board(s) is being sprayed twice, once from each side. This results 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 and removing it before it reaches the preheating. Check spray volume by passing a glass plate or empty circuit board through the fluxer and remove it from the machine before it reaches the preheating. There may be no drops present. Drops are a sign of excessive flux and are difficult to evaporate. To start, it is advisable to reduce the flux amount with about 30% compared to most alcohol based fluxes. 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 practical experience. All water should be evaporated from the boards before hitting the wave. Hot air convection preheating facilitates water evaporation but it is advisable to avoid hot air temperatures above 150°C when possible.
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 preheating profile

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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
Chemical		
Flux designator	**OR L0**	J-STD-004A
Qualitative 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
Quantitative halide	**0,00%**	J-STD-004A IPC-TM-650 2.3.35
Environmental		
SIR test	**pass**	J-STD-004A IPC-TM-650 2.6.3.3
Qualitative corrosion, flux	**pass**	J-STD-004A IPC-TM-650 2.6.15
Electro (chemical) migration (40°C, 93%RH,5VDC)	**pass**	Siemens ZT test protocol
Corrosion test	**pass**	Test Bono

Safety

Please always consult the safety datasheet.

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Packaging

PacIFic 2010F is available in the following packages:

1L HDPE bottle
10L and 25L HDPE drums
200L HDPE barrel
Other packaging available upon request.

Trade name : PacIFic 2010F VOC-Free No-Clean Soldering Flux

Disclaimer

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