No-clean, rosin based, halide free soldering flux

Description:

AF 4818 PbF is a no-clean soldering flux based on a modified rosin.

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

The residue left on the board by AF 4818 PbF is minimal compared to conventional rosin based fluxes. It is non hygroscopic and possesses high surface insulation resistance, making it particularly suitable for no-clean, high reliability applications like telecommunication, automotive, computer, medical etc,...

AF 4818PbF is preferred for wave soldering. It can also be used for selective soldering and hand soldering. The flux is suitable for lead-free and SnPb alloys.

Products pictured may differ from the product delivered

RoHS compliant

Key properties

- reduced bridging
- Inhibits solder balling
- Wide process window
- Suitable for both SnPb and lead-free alloys
- Absolutely halogen free

Physical and chemical properties

Density at 20°C	0,798 g/ml ± 0.01
Colour	Clear Amber
Odour	Alcohol
Solid content	5%
Halide content	0,00%
Flash point (T.O.C)	17°C (62°F)
Total Acid Number	19,0 mg KOH/g ± 2
IPC/ EN	RO L0

S.A. INTERFLUX® ELECTRONICS N.V - Eddastraat 51 - BE-9042 Gent - Belgium
tel.: +32 9251 49 59 - fax.: +32 9251.4970
www.interflux.com - Info@interflux.com

Applying the flux

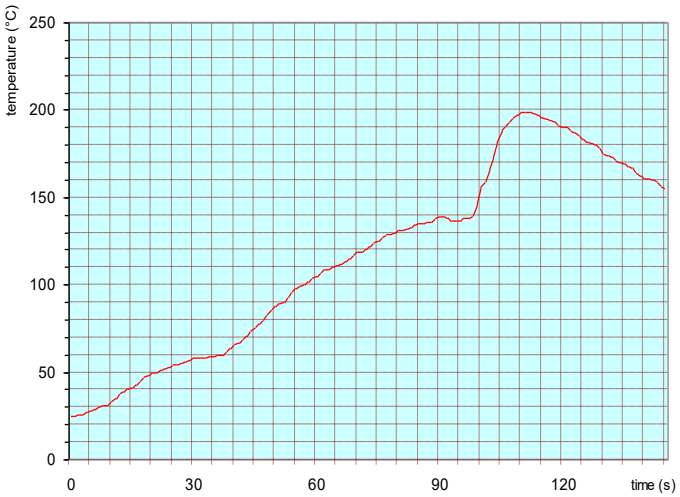
Spray fluxing: It is advised to use a double spray stroke during fluxing, whenever possible and to keep the flux air pressure low. The nozzle traverse speed is set to a value which ensures that every point on the board is sprayed twice, (once from each side). Resulting in a 50% overlap on the spray pattern. 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,...

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Test results

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

Property	Result	Method
Chemical		
Flux designator	**RO 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

Handling

Storage

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

Safety

AF 4818PbF is flammable. Please always consult the safety datasheet of the product.

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Packaging

AF 4818PbF is available in the following packages:

1L HDPE bottle

10L and 25L HDPE drums
200L HDPE barrel

Other packaging available upon request.

Trade name : AF 4818PbF Soldering Flux

Disclaimer

Because Interflux® Electronics N.V. cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own test to determine the suitability of each such product for their particular purposes. The product discussed is sold without such warranty, either express or implied.

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