No-clean, halide free, No residue™ soldering flux

Description:

Interflux® IF 2005M is a low solids no-clean flux, designed to evaporate during the soldering process. This means also the safest no-clean flux for high-tech circuits.

With no rosin nor resin present to create a sticky residue, there is nothing left after wave soldering to foul test pins or prevent electrical contact. Furthermore, machine and carrier pollution are very little compared to other fluxes.

This absolutely halide free flux meets all Bellcore and IPC requirements and is QPL- listed (approved to MIL-F-14256F). It is formulated to provide the best combination of solderability, ease of processing and reliability. Great solderability on HAL, Ni Au, I-Sn, I-Ag and OSP coated PCB's.

IF2005M works great with lead-free alloys. It is resistant to elevated pre-heating temperatures, and to a long wave contact time with a higher working temperature.

The flux has very high compatibility with conformal coatings.

The IF 2005M is classified OR/L0 per IPC J-STD-004.

IF 2005M is also available in refillable flux pens for hand soldering.

Products pictured may differ from the product delivered

RoHS compliant

Key properties

- QPL listed
- Absolutely halide free
- For lead-free and SnPb soldering
- No residue™ technology
- Very high compatibility with conformal coatings
- High stability in foam fluxing

Physical and chemical properties

Appearance	Clear colourless liquid
Solid content	1,85% ± 0,15%
Density at 20°C	0,807—0,809 g/ml
Water content	3-4%
Acid number	14 – 16 mg KOH/g
Flash point T.O.C	15°C (59°F)

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

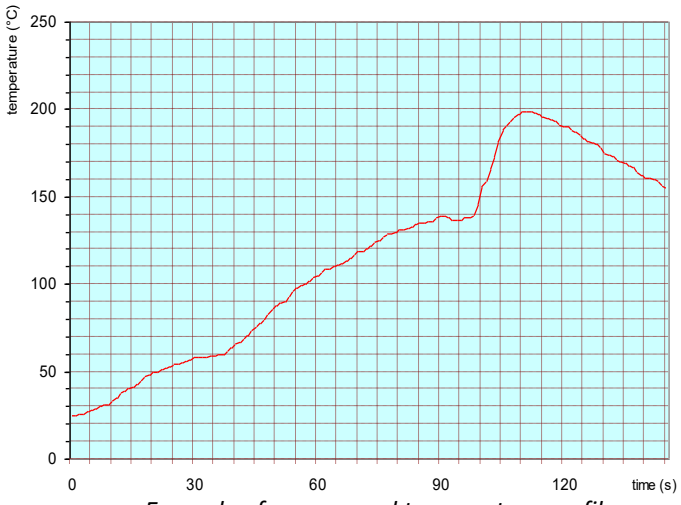
The IF 2005M can be applied by a variety of methods.

Foam fluxing: To ensure good foaming, the level of flux needs to be at least 2—3 cm over the porous flux stone. The use of an air knife is imperative.
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.
Flux pen: For rework and hand soldering operations.

Preheating

The recommended preheat temperature measured on the topside of the boards is 80°C-130°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
OSP finished boards can benefit with enough flux, lower preheat temperatures and high solder pressure on the (first) wave to get good through hole filling.



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,...

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

Test results

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

Property	Result	Method
Chemical		
Flux designator	**OR L0**	J-STD-004B
Qualitative copper mirror	**pass**	J-STD-004B IPC-TM-650 2.3.32
Qualitative halide		
Silver chromate (Cl, Br)	**pass**	J-STD-004B IPC-TM-650 2.3.33
Quantitative halide	**0,00%**	J-STD-004B IPC-TM-650 2.3.35
Environmental		
SIR test	**pass**	J-STD-004B IPC-TM-650 2.6.3.7
Qualitative corrosion, flux	**pass**	J-STD-004B IPC-TM-650 2.6.15
Electro(chemical) migration	**pass**	Bellcore GR-78-CORE section 13.1.4
Electro(chemical) migration	**pass**	Siemens ZT

Handling

Storage

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

Safety

IF 2005M is flammable. Please always consult the safety datasheet of the product.

Density control

For open flux application systems like e.g foam fluxing a flux density control can be useful. The density of the IF 2005M flux shall be checked using a suitable density meter, the value showed by the density meter should be compared, after temperature compensation, with the value in the IF 2005M density table and may only be adjusted with the T 2005M accordingly.

Titration check

For open flux application systems like e.g foam fluxing, a titration check can be useful. The solids content value of the IF 2005M flux can be determined by titration. The liquids for titration are available at Interflux. Adjustments of the solid content may only be done by using T 2005M conditioner.

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

Packaging

IF 2005M 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 2005M No-Clean, Halide Free 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.

Latest version of this document on:

www.interflux.com

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