No-clean soldering flux for selective fluxing applications

Description:

IF 6000 is a no-clean soldering flux developed for selective fluxing applications.

Typical processes where IF 6000 can be used are hand soldering, rework and repair, automated soldering, BGA rework, stamp soldering, “wafer bumping”,...

The flux has not been developed for selective wave applications.

IF 6000 is absolutely halogen free. Residues are very safe, also in an unconsumed state.

The flux contains natural rosin, providing a wide working window. Depending on the amount of flux and the temperature profile, the flux may leave a slight residue after soldering.

IF 6000 flux is compatible with lead-free and SnPb alloys.

Products pictured may differ from the product delivered

RoHS compliant

Key properties

- Very safe residues
- Wide range of use
- Wide process window
- Suitable for both lead-free and SnPb alloys
- Absolutely halogen free

Physical and chemical properties

Density at 20°C	0,870 g/ml ± 0.01
Colour	Amber
Odour	Aliphatic Alcohol
Solid content (theoretical)	35 %
Solid content (by titration)	7,55 %± 1
Halide content	None
Flash point (T.O.C)	13°C (55°F)
Total Acid Number	59,5 mg KOH/g ± 2
IPC/ EN	RO L0

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Applying the flux

The flux can be applied by brush, dipping, spin coating,...It is advisable to apply the flux on the surfaces to be soldered only. An easy way of doing this is by using a flux pen with glass fibre tip. In general, it should be the goal to apply just enough flux in order to minimize residue formation after the soldering process. This is being done by trial and error because each process has different parameters, determining the required minimum flux amount. Minimize the flux amount gradually until soldering defects like non wetting, orange skin, etc... appear. Raise the flux amount till the problems disappear.

Preheating

In general a preheating is used to limit the temperature shock and to evaporate the solvent of the flux. IF 6000 doesn't require a preheating. If possible, it is advisable to have the alcohol evaporated before going to soldering temperatures.

Soldering

Regardless of the used soldering technique, it is always important to know the physical limitations of the components and base materials to be soldered and to adapt the soldering profile to these limitations.

Hand soldering : For Sn(Ag)Cu alloys, the advised working temperature is between 320°C and 390°C. For SnPb(Ag) alloys, this is between 320°C and 360°C. For more dense metals like Nickel, the temperature may be elevated. Choose the correct soldering tip: to reduce the thermal resistance, it is important to create a large contact surface with the component and solder pad. The use of a good soldering station is important in order to always have the correct temperature on the soldering joint. Use a soldering station with a response time as short as possible. Heat up the surfaces of both component and island simultaneously. Slightly touch with the solder wire, the point where component lead, soldering island and soldering tip meet (the small quantity of solder ensures a drastic lowering of the thermal resistance). Add subsequently without interruption, the correct amount of solder close to the soldering tip without touching the tip. Using Interflux® Tip Tinner can prolong soldering tip life.

IF 6000 can be used for **reflow soldering** of BGAs, mainly for rework and repair. However in general for soldering BGAs, the gel flux IF 8300 is most commonly used. The used soldering profile will mainly be determined by the used soldering alloy and the physical properties and limitations of the materials to be soldered. The use of nitrogen is not necessary but always advisable. Reducing atmospheres like nitrogen/hydrogen are possible.

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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

Safety

IF 6000 is flammable. Please always consult the safety datasheet of the product.

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Packaging

IF 6000 is available in the following packages:

Refillable and non refillable flux pen

100ml, 0,5L and 1L HDPE bottle

10L and 25L HDPE drums

Other packaging available upon request.

Trade name : IF 6000 No-Clean Soldering Flux for Selective Fluxing Applications

Disclaimer

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