



VOC-free, no-clean soldering flux for selective soldering

Description:

SelectIF 2040 is a VOC-free and no-clean soldering flux developed for selective soldering.

The flux combines a wide process window in selective soldering with low residue formation.

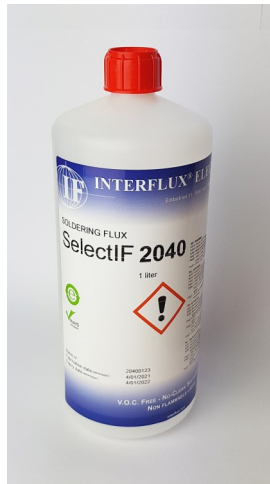
SelectIF 2040 is suitable for soldering units with high thermal mass and hence high temperatures and long process times.

Due to its special composition, it leaves less residues after soldering than the conventional fluxes for selective soldering. With the correct settings, the flux residue border around the solder joints, typical for selective soldering can be eliminated (See P 2).

SelectIF 2040 tends to give low solder balling after soldering.

The flux is compatible with lead-free and SnPb alloys.

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



Products pictured may differ from the product delivered



Key properties

- Wide process window
- Suitable for high temperatures and long process times
- Low residue
- Eliminates flux residue border typical for selective soldering
- Low tendency towards solder balling
- Compatible with SnPb and lead-free alloys
- Absolutely halogen free

Physical and chemical properties

Density at 20°C	1,00 g/ml ± 0,01
Colour	clear
Odour	sweet
Solid content (activity)	6,5 % ± 0,2
Halide content	0,00 %
Flash point (T.C.C)	n.a.
Total Acid Number	44 mg KOH/g ± 2
IPC/ EN	OR/ L0



Applying the flux

In selective soldering, the flux is usually being applied by a micro-jet nozzle. The correct volume of flux will depend on parameters like type of surface finish, oxidation level, thermal mass of the board and component,...and soldering parameters like used alloy, soldering temperature and time, turbulence of the wave,...

Compared to most fluxes, SelectIF 2040 typically only needs about half of the flux volume. It should be the goal to apply as little as possible flux with good soldering results. To avoid the flux residue border, typical for selective soldering, it is important to apply this minimal required flux volume. In practice this optimal flux volume is being determined by trial and error or by copying values of similar boards/solder joints.



flux residue border around the solder joints, typical for selective soldering, can be eliminated with SelectIF 2040 when applying the correct flux quantity.

Preheating and wave contact

In general a preheating is used to limit the temperature shock and to evaporate the solvent of the flux. It is advisable to have the water content evaporated before wave contact. A good preheating can promote through hole wetting. SelectIF 2040 has no lower limit for the preheating temperature. It is advisable to keep the preheating below 160°C when possible.

In selective soldering the wave contact is mostly determined by good through hole wetting. This is influenced by the preheating, the thermal mass of PCB and component, the wettability of the finishes, the solidification point of the used alloy and the working temperature. Like the flux amount, in practice this is being determined by trial and error or by copying values of similar boards/solder joints.

Typical contact times are between 1s and 3s but higher contact times are possible.

Safety

Please consult the safety datasheet for more information.



Test results conform EN 61190-1-1(2002) and IPC J-STD-004A/B

Property	Result	Method
Chemical		
Flux designator	OR LO	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-004B IPC-TM-650 2.6.3.7
Electro migration	pass	J-STD-004B IPC-TM-650 2.6.14.1
Qualitative corrosion, flux	pass	J-STD-004A IPC-TM-650 2.6.15
Corrosion test	pass	Test Bono

Packaging

SelectIF 2040 is available in the following packages:

1L HDPE bottle

10L and 25L HDPE drums

Other packaging available upon request.

Trade name : SelectIF 2040 VOC-Free, No-Clean Selective Soldering Flux

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