LIQUID FLUX WF130

VOC-free and no-clean

DESCRIPTION

Stannol WF130 is a water-based, halide-free and low-solid flux, developed for the use in industrial electronics manufacturing. It helps to reduce emissions of volatile organic compounds (VOC) by replacing IPA with water as solvent.

CHARACTERISTICS

Stannol liquid flux WF130 offers the following advantages:

- **No-Clean formulation**
- **Leaves electrical safe residues - no removal of residues required**
- **For all available lead-free alloys / solders**
- **Application with spray fluxer**
- **Non-flammable formulation - <1% VOC - meets US air quality legislation**
- **Ensures a good wetting on surfaces and in through holes**

RECOMMENDED OPERATING CONDITIONS

Printed Circuit Board: Stannol WF130 has been formulated for high activity on oxidized copper and most commonly used surface preservative materials (HAL, Ni/Au, chem. Sn and chem. Ag). The flux ensures a good filling of the through holes in THT. The combination of WF130 and OSP should be tested before starting the manufacturing.

Machine Preparation: Before changing over to using WF130 please ensure the solder equipment is thoroughly cleaned, including all fingers, pallets and conveyors, so that any possible contamination has been removed. Stannol Flux-Ex 200B can be used in the finger cleaners.

Fluxing: Stannol WF130 has been specially formulated for use in spray fluxing equipment only. To achieve a very clean PCB after soldering, set the volume of the spray fluxing unit to 15-25ml/min. This value can only be a recommendation and may vary within different wave solder equipment.

Flux Control: As the flux Stannol WF130 has been designed to be applied by closed spray fluxing units only, there is no change in density and/or acid value. In special cases a control of the acid value and addition of deionized water can be done using the Stannol Mini-Titration-Kit (flux concentration test kit).

Note: The flux should not be stored below +10°C (long-time-storage). For a short time storage temperatures of +5°C might be acceptable without risks of flux degradation. Lower temperatures may cause the solids to crystallize and form a solid layer inside the container. If this happened, you can try to get the solids back into solution by consistently stirring and heating it to room temperature.

Preheating: As Stannol WF130 is based on water, it is necessary to adjust the preheat settings to ensure the water is sufficiently evaporated prior to the PCB entering the solder wave. A minimum temperature according to the below listed chart ensures, the flux can react properly by removing oxides (see topside pre-heat table below). The optimum preheat temperature for a PCB depends on its design and the thermal mass of the components used, but the preheat temperature and time should be set properly to ensure that the solder side of the PCB is not visibly wet when it hits the liquid tin of the wave.

Wave Soldering: Excess moisture on the PCB during soldering may lead to random solder balling and poor wetting of some solder joints. IT IS IMPORTANT that the flux solvent carrier (water) is fully evaporated and that the PCB appears virtually dry when it reaches the solder wave. At a speed of 1.20-1.50m/min, a contact time of approx. 1.5-3 sec is recommended. Very long contact times may produce dull solder joints.

Haberstr. 24 • 42551 Velbert • Tel: +49 (0)2051-3120-0 • Fax: +49 (0)2051-3120-111 • E-Mail: info@stannol.de • www.stannol.de

For accurate preheat and peak temperature measurements when setting up a wave solder machine, and consistent process monitoring we recommend to use the Stannol Thermologger 5000 temperature profile system.

PHYSICAL PROPERTIES AND DATA

GENERAL PROPERTIES	WF130
Colour:	clear, colourless liquid
Solid content:	3,0%
Halide content:	Zero
Acid value (on liquid):	26 mg KOH g^{-1}
Specific density at 25°C (77°F)	1.007 g/cm^3
Recommended thinner:	no thinner required
J-STD-004 classification:	OR L0
SIR-Test:	10 ^{10} Ohm
Copper mirror:	Pass L0
Copper corrosion:	Pass L0
DIN EN 29454-1 classification:	2.1.3.A

SHELF LIFE

1 year after date of delivery (provided proper storage in originally sealed container).

HEALTH AND SAFETY

Before using please read the material safety data sheet carefully and observe the safety precautions described.

NOTICE