FELDER seit 1979 LÖTTECHNIK

Product Information

Electronic flux ISO-FLUX® "ELS 3320"

Resin-free no-clean flux for wave- and selective soldering
ISO 9453-1 – 2231 (DIN EN 29454 - 2.2.3.A, EN 61190 – ORL0)

Item No.: 258320..

Description

ISO-FLUX® **"ELS 3320"** is a resin-free, halide-free flux on alcohol basis for the automatic soldering of P.C.B.s with standard and SMD-mounting. The flux shows very good activating properties and has excellent spreading properties on **all** common solder surfaces.
ISO-FLUX® **"ELS 3320"** has especially been developed for the purpose of an inertisation of organic surfaces as well as against blob development during the automatic soldering process. Especially for photopolymer solder resist masks, for two component solder resist masks as well as untreated basis material this flux prevents through its special preparation as far as possible the corresponding development mechanism respectively an affinity at the interface.
ISO-FLUX®**"ELS 3320"** is very temperature stable and therefore very suitable for the lead-free soldering technique.

Properties

Solid content	:	2.7 %
Acid value	:	24.5
Density (20° C)	:	0.813 g/cm³
Flashpoint	:	<12° C
Halide content	:	halide-free
Colour	:	water clear
Thinner	:	**FELDER VF-1**

Application

ISO-FLUX®**"ELS 3320"** is especially suitable for the highly qualified production of commercial electronic and achieves with SMD-mounting best results.
The application of the flux on the P.C.B. is practicable with all well-known fluxing procedures (e.g. foaming, spraying, microdrop etc.).

ISO-FLUX®**"ELS 3320"** is suitable for the soldering with single wave and double wave systems as well as with turbulent multiple-hole nozzle systems (Wörthmanndüsen).

After the soldering the circuit boards are as far as possible free of residues. Therefore, the cleaning can be left out. The cooled down flux distinguishes itself by its well isolation properties, which are kept by the humidity demands.
A lacquer ability of the cooled down circuit with common isolation lacquers is generally given. The user should convince itself of the compatibility.

 Status: 03/24

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As quality security measures following tests were made:

Isolation resistance (Comb pattern according to IPC-B-24)

Sample preparation	Test A, apply 3 comb patterns with flux, after drying put it on the solder bath at 245 - 260°C for 4±1 seconds with comb pattern side **down**, cleaned. Test B, 3 comb patterns, same application, comb pattern side **down**, not cleaned Test C, like B, but put comb pattern side **up** on the solder bath.
Result	**SIR-Test passed uncleaned and cleaned**

E-corrosion

Sample preparation	The comb patterns of the isolation test will be stored after 4 days humidity test for further 21 days in climate 40°C / 93% rel. humidity at applied direct voltage (+5VDC).
Result	**no e-corrosion**

Preheat temperature

The typical preheating temperature, measured on the component side of the circuit board, should be 80°C - 110°C (when using lead-free solders, the preheating temperature should be 20 - 30°C higher). This creates a temperature of approx. 100-160°C on the soldering side, of course depending on the type of circuit board.

Flux Residues

After soldering the flux residues do not lead to corrosion of non-ferrous metals and therefore can remain on the solder joint. During the soldering process the major part of the flux is washed away from the PCB. For the removal of the flux residues ethanol, isopropanol or aqueous alkaline cleaner are suitable.

Solder bath temperature

The ideal soldering bath temperature should not exceed 250°C in the lead-based soldering process.
For the lead-free wave soldering process, we recommend a maximum soldering bath temperature of 280 °C. Since a temperature difference of up to 20 K can occur between the solder bath and the solder wave in selective soldering systems, a maximum value of approx. 300 °C applies here!

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Soldering speed

A speed of 0.8 - 1.6 m per minute over the soldering wave is recommended.

Further advice

ISO-Flux® "ELS 3320" is tested for its compatibility with materials commonly used in electronics production. A compatibility test for the plastics, colors and labels used by the user is recommended.

In open fluxer systems, the acid number must be determined daily by titration.
This test can be carried out by the machine operator with our FELDER titration set without much effort.

FELDER ISO-FLUX® **“ELS 3320“** does not contain any substances which are subject to restrictions according to directive 2011/65/EU (“RoHS”).

Delivery Form

1.000 ml	bottles,
5 and 25 l	canister
200 l	hobbock

Minimum Durability

6 months from production date.

Storage advice

Recommended storage temperature is between +5° C and +20° C.

Safety regulations

Reference is made to the associated safety data sheet.

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