

Technical Product Information

ELFLUX 3000-97 NC / ELFLUX 3000-98 NC

General Description

ELFLUX 3000-97 NC is a water-based flux with low solid content. It is a halide-free, organic flux for use in wave soldering under normal or inert gas atmosphere. As to its formulation ELFLUX 3000-98 NC corresponds to ELFLUX 3000-97 NC, however, it is based on a water-solvent mix (40% alcohol-based solvent). ELFLUX 3000-98 NC is used in cases where a pure water-based flux cannot be used due restrictions imposed by components or processes.

Flux residues on printed circuit boards are not tacky. Electrical in-circuit testing can be done without any problems. The solder joints are low in residues and in general cleaning is not necessary.

ELFLUX 3000-97 NC / 3000-98 NC improve the soldering results and minimize the formation of solder bridges and solder balls. ELFLUX 3000-97 NC and 3000-98 NC contain a corrosion inhibitor preventing corrosion on copper surfaces under humid conditions.

Areas of Use

ELFLUX 3000-97 NC and ELFLUX 3000-98 NC have been developed especially for OSP surfaces but also show very good soldering results on chemical tin or HAL surfaces.

ELFLUX 3000-97 NC / ELFLUX 3000-98 NC can be used both for the automotive and the telecommunication areas. ELFLUX 3000-97 NC / ELFLUX 3000-98 NC have been developed also for processing lead-free alloys like SnCu0.7, SnAg3.5, SnAg3Cu0.5 and similar alloys.

Classification

ELFLUX 3000-97 NC / ELFLUX 3000-98 NC have been classified as ORLO per DIN EN 61190-1-1 and IPC ANSI/J-STD-004.

Technical Specification

	ELFLUX 3000-97 NC	ELFLUX 3000-98 NC
Appearance	Clear, colourless liquid	Clear, colourless liquid
Smell	Odourless	Mild alcoholic
Solids content [%] (per IPC-TM-650 2.3.34)	2.8	3.2
Density [g/cm ³] (20 °C)	1.004 ± 0.005	0.937 ± 0.005
VOC content [%]	None	40, solvent-water mix
Acid number [mg KOH/gFlux]	17 ± 2	24 ± 2
Halides [%]	None	None
pH value (20 °C)	2.6	3.3
Flash point [°C]	None	23
Ignition temperature [°C]	None	399

Application

ELFLUX 3000-97 NC can be applied exclusively by spraying. ELSOLD recommends spray fluxers which are able to process the flux directly from the delivery container. ELFLUX 3000-98 NC can be applied by spray and by foam. The optimum preheating temperature is 110 – 135 °C as measured on the top side (component side) of the board. The use of more nitrogen is recommended for most soldering equipment types in order to avoid the formation of vapour in the soldering tunnel. Soldering equipment makers will be able to advise you accordingly. Partial convection pre-heating saves energy.

For replacement of solvent due to evaporation losses we recommend DI water for 3000-97 NC and ELSOLD thinner 301 for 3000-98 NC.

Lead-free Solders

ELFLUX 3000-97 NC / ELFLUX 3000-98 NC are thermally stable and can therefore also be used under increased preheating temperature.

Packing Sizes

ELFLUX 3000-97 NC and ELFLUX 3000-98 NC are available in containers of 10 L or 20 L.

Cleaning

Cleaning of the boards: ELFLUX 3000-97 NC / ELFLUX 3000-98 NC are no clean fluxes. Cleaning is not required in general.

General Safety Precautions

ELFLUX 3000-97 NC / ELFLUX 3000-98 NC should be used according to industrial standards of practice. For safety advice please refer to the material safety data sheet.

Storage

ELFLUX 3000-97 NC is not flammable and therefore not subject to any restrictions regarding the stored quantity, not even near the soldering machine. The product does not have to be stored in dangerous goods stores. ELFLUX 3000-97 NC is water-based and should not be stored under 3 °C.

ELFLUX 3000-98 NC is flammable and therefore needs to be stored away from possible sources of ignition.

Shelf Life

Under adequate conditions ELFLUX 3000-97 NC and ELFLUX 3000-98 NC can be stored in original unopened containers for a minimum of 12 months.

The information contained herein is based on technical data that we believe to be reliable and is intended for use by persons having technical skill, at their own risk. Users of our products should make their own tests to determine the suitability of each product for their particular process.