ELFLUX 1000 NC / Thinner 100

General Description

ELFLUX 1000 NC is a solvent-based, halide-free, organic no clean flux for use in automatic wave soldering. ELFLUX 1000 NC is low in solids and is free from rosin.
Thinner 100 is used as solvent to control the density of ELFLUX 1000 NC.

ELFLUX 1000 NC improves the soldering result and minimizes the formation of bridges and shorts. ELFLUX 1000 NC contains a corrosion inhibitor preventing the risk of corrosion on copper surfaces under humid conditions.

The residues, which are neither corrosive nor conductive, meet the requirements per BELLCORE TR-NWT-000078. The insulation resistance of boards soldered using ELFLUX 1000 NC is higher than with conventional fluxes. The residues are not tacky. Electrical in-circuit testing is possible without problems.

Areas of Use

ELFLUX 1000 NC can be used for automotive and telecom electronics and in many other standard electronic applications.

Classification

ELFLUX 1000 NC is classified as ORL0 per DIN EN 61190-1-1 and per IPC ANSI/J-STD-004.

Technical Specification

	ELFLUX 1000 NC	Thinner 100
Appearance	Clear, transparent liquid	Clear, transparent liquid
Smell	Mild alcoholic	Mild alcoholic
Density [g/cm^3] (20 °C)	0.812 ± 0.001	0.805 ± 0.001
Solids content [%] (per IPC-TM-650 2.3.34)	2.0	None
VOC content [%]	> 90, solvent-based	100, solvent-based
Acid number [mg KOH/gFlux]	15 -0.5/+1.0	< 1
Halides [%]	None	None
pH value (20°C)	4.9	Neutral
Flash point [°C]	16	16
Ignition temperature [°C]	399	399
Recommended thinner	Thinner 100	

Hüttenstraße 1 · D-38871 Ilsenburg
Phone +49 (0)39452 4879-11 · Fax: -66
info@tamura-elsold.de

Application

ELFLUX 1000 NC is best applied by foam fluxing equipment but can be sprayed as well. The flux will provide a uniform head of foam with small air bubbles. The optimum preheating temperature for many circuit board assemblies is 90-115 °C as measured on the top side of the circuit board.

Process Control

The control of the flux during use is necessary to assure a consistent flux distribution on the circuit boards. Monitoring the flux can be done by chemical titration. Auto-density controllers might cause failures due to water absorption of the flux.

Corrosion and Electrical Tests

SIR per Bellcore TR-NWT-000078 for Telecommunication	Result
Overall Result	Pass
Climate	35 °C/90 % humidity
Bias	45 – 50 V
Comb pattern	25 mil lines, 50 mil spaces
Insulation Resistance Value (11 days):	
Pattern Up	$5 \times 10^{11}\ \Omega$
Pattern Down	$9 \times 10^{11}\ \Omega$
Control	$4 \times 10^{12}\ \Omega$

SIR per IPC-SF-818	Result
Flux	$5 \times 10^{9}\ \Omega$
Control	$> 5 \times 10^{9}\ \Omega$

ELFLUX 1000 NC has been tested at and approved by the CT Labs of Siemens in Berlin. The test certificate is available on the TAMURA ELSOLD website www.tamura-elsold.de.

Cleaning

Cleaning of the boards: ELFLUX 1000 NC is a no clean flux. Generally, cleaning is not required.

General Safety Precautions

ELFLUX 1000 NC should be used according to industrial standards of practice. For safety advice please refer to the material safety data sheet.

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Packing Sizes

ELFLUX 1000 NC and Thinner 100 are available in containers of 10 L and 20 L.

Storage

ELFLUX 1000 NC is flammable. Store away from sources of ignition. Storage temperature: 5 – 25 °C.

Shelf Life

Under adequate conditions ELFLUX 1000 NC can be stored in original unopened containers for a minimum of 12 months.

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