

NC27 Gel Flux

Introduction

NC27 is a high activity no clean gel flux for soldering and rework of surface mount assemblies. NC27 gel flux is formulated to provide clear, colorless residue which is pin testable. NC27 can be used in dispensing, stencil printing and pin transfer applications. NC27 works well with leaded and Pb-free alloys, and is halide free.

Attributes

- High activity flux designed to work with difficult to solder surfaces.
- Excellent print and dispense characteristics.
- Creates bright and shiny solder joints with a clear pin testable flux residue.
- Works well for Sn/Pb and Pb-free solder alloys.
- Halide free.

Gel Flux Packaging	Part Number	Net Weight (Approximate)
Syringe 10 cc	NC27F10CC	5 grams
Syringe 30 cc	NC27F30CC	15 grams
Jar 150 cc	NC27FJ	90 grams

Compatible Products

NC120, NC160, NC165 liquid fluxes.
NL930PT solder paste.

Storage and Handling

- Shelf life is 1 year when the gel flux is stored between 50 to 90 °F (10 and 32 °C) in a standard warehouse or office environment.
- Store the gel flux sealed inside of the original packaging.

Application

NC27 gel flux is suitable for use in any electronic soldering application. NC27 is designed for stencil printing, pin transfer, dot dispensing and syringe applications. It can be used as a tacky flux for re-balling BGAs and soldering other components. NC27 is also suitable for touchup and rework soldering.

NC27 should be heated through normal soldering operations like SMT reflow, hand soldering, etc. Recommended parameters for heating the gel flux are shown below.

- Heat up at a rate of 1-2 °C/sec.
- Dwell between 135 and 160 °C for 1-2 minutes.
- Ramp up the temperature to 235-260 °C, depending upon the solder alloy used.

- Hold the temperature for a time above liquidus (TAL) of 45-90 seconds.
- Cool down at a rate of 3-7 °C/sec to reach room temperature.

Cleaning

Raw gel flux can be removed from the stencil, squeegee blades, and circuit boards using a variety of commercial cleaners. Isopropyl alcohol (IPA) can also be used.

After heating, no-clean flux residues are designed to be “safe” and do not need to be removed from the circuit board. If removal of the flux residues is desired, then a commercial cleaning agent should be used. Several commercial cleaning agents have been tested and found to be effective. Please contact your cleaning chemical supplier for details.

Safety

Wear chemically resistant gloves and safety glasses when using gel flux. Avoid contact with the flux and avoid breathing fumes, especially during soldering. Follow the guidelines in the Safety Data Sheet (SDS).

J-STD-004D Standard	Test Method	Result
J-STD-004 classification	J-STD-004 methods	ROLO
Visual appearance	Visual	Clear colorless flux residue
Solids content	IPC 2.3.34	70 to 75% wt
Acid value	IPC 2.3.13	140 to 155 mg KOH / gram flux
Halide ion content (Br, Cl, F, I)	IPC 2.3.28.1	0.0% wt
Halogen content (Br and Cl)	EN 14582, IPC 2.3.28.1	1.7 to 1.9% wt of solids
Halide by silver chromate	IPC 2.3.33	No halides detected
Fluoride by spot test	IPC 2.3.35.1	None detected
Copper mirror	IPC 2.3.32	Low activity
Copper corrosion	IPC 2.6.15	No corrosion
Surface Insulation Resistance (SIR)	IPC 2.6.3.7	Pass
Electro Chemical Migration (ECM)	IPC 2.6.14.1	Pass

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