



NC264-5



No Clean Liquid Flux

Features:

- Broad Process Window
- Fast Wetting for SN100C[®] and SAC alloys
- Halide-Free
- Low Post Process Residues
- Lead-Free and Tin-Lead Compatible

Description:

NC264-5 is an alcohol-based no-clean liquid flux formulated to offer a very wide process window for lead-free and tin-lead wave soldering operations. NC264-5 offers faster wetting for SN100C[®] and SAC alloys than previously formulated fluxes and is compatible with a broad range of lead-free and tin-lead solder alloys. NC264-5 offers low post-process residues and has proven to reduce preventative maintenance requirements for spray fluxing applications. NC264-5 is designed to be a no-clean, non-visible residue flux, which can be cleaned if critical to the product application.

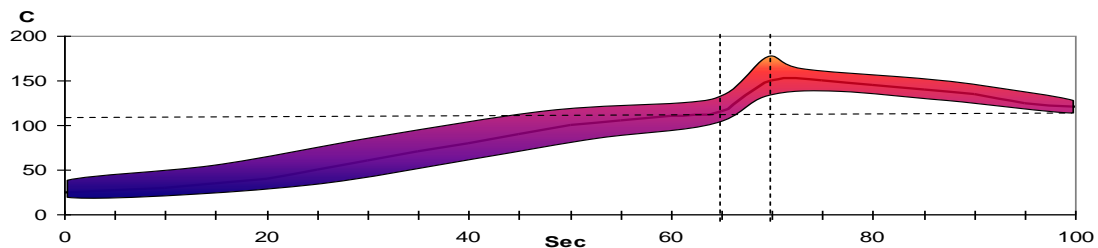
Application:

- NC264-5 is formulated for application via spray, foam, brush, mist, or dip. For spraying, NC264-5 is ready to use directly from its container, no thinning required. When spray fluxing, it is imperative that proper flux coverage and uniformity be achieved and maintained. A dry flux coating of 500-1500 micrograms per square inch is recommended as a starting point.
- When nitrogen sealed wave solder equipment is used, it is generally necessary to apply slightly more flux than normal as a result of excess drying due to the extended length of the equipment.
- When foaming, air stones should be supplied with compressed air, free of oil and moisture. Adjust foam head to achieve uniform bubble size for optimum coverage. During foaming applications, it is periodically necessary to add AIM's Common Flux Thinner to replace that which is lost due through evaporation.

Process Control:

Because of the low percentage of solids in this flux, control of specific gravity with automated equipment usually is found to be ineffective; therefore, control via titration is necessary. AIM's Titration Kit has proven to be cost-effective, user friendly, quick and accurate. Titration should be carried out at least once an hour for flux foaming operations, or more often if large variances are found.

Thermal Profile:



| | | | |
|---|--|--|--------------------------|
| RATE of RISE 2-3 °C / SEC MAX | PROGRESS THROUGH 66°C - 77°C (150 - 170°F) | PCB TOP SIDE TEMP 87°C - 115°C (190°F - 240°F) | COOLDOWN ≤ 4°C |
| | ≤ 40 SECONDS | JUST BEFORE WAVE | |

Cleaning:

NC264-5 can be cleaned, if necessary, with saponified water or an appropriate solvent cleaner. Please refer to the AIM No-Clean-Cleaner Matrix for a list of suitable cleaning materials.

Handling:

- NC264-5 has an unopened shelf life of 1 year when stored at room temperature.
- Do not store near fire or flame. Keep away from sunlight as it may degrade product.
- NC264-5 is shipped ready-to-use, no mixing necessary.
- Do not mix used and unused chemical in the same container. Reseal any opened containers.

Safety:

- Use with adequate ventilation and proper personal protective equipment.
- Refer to the accompanying **Material Safety Data Sheet** for any specific emergency information.
- Do not dispose of any hazardous materials in non-approved containers.

Physical Properties:

| Parameter | Value |
|----------------|---------------------------|
| J-STD-004 | ROLO |
| Visual | Clear, Colorless |
| Odor | Aromatic (Slightly) |
| Solids Content | 3.54% |
| Acid Number | 16.60-20.50 mg KOH/g flux |

| Parameter | Value |
|-------------------------|------------------|
| Specific Gravity | 0.80 (water = 1) |
| Flash Point | < 10°C |
| Boiling Point | 82°C |
| pH (1% solution /water) | Acidic |

Corrosion Testing:

| Parameter | Requirements | Results |
|--------------------------------------|-------------------|---------|
| Copper Mirror (24 hrs @ 25°C, 50%RH) | IPC-TM-650-2.3.32 | Low |
| Halide Test (Silver Chromate) | IPC-TM-650-2.2.33 | Pass |

Surface Insulation Resistance:

| Reference | Property | Pass-Fail Criteria | Results |
|---|-------------------------------|---------------------------------|------------------------------|
| IPC-TM-650 method 2.6.3.3 85°C / 85% R.H. | Control coupons | >1E+9 Ω at 96 and 168 hrs | 3.15E+9 Ω and 3.02E+9 Ω Pass |
| | Sample coupons – pattern up | >1E+8 Ω at 96 and 168 hrs | 3.03E+9 Ω and 2.93E+9 Ω Pass |
| | Sample coupons – pattern down | >1E+8 Ω at 96 and 168 hrs | 4.26E+8 Ω and 6.03E+8 Ω Pass |
| | Post-test visual inspection | No dendrite growth or corrosion | Pass |

Electromigration:

| Test | Conditions | Specification | Results |
|--|---------------------------------|---------------|--------------------------------|
| Electromigration Bellcore GR-78 Flux Requirements | 65°C/85% R.H. 500 hrs – Control | Rf/Ri > 0.1 | 7.67E+10 Ω / 5.53E+10 Ω – Pass |
| | 65°C/85% R.H. 500 hrs – Sample | Rf/Ri > 0.1 | 1.69E+11 Ω / 2.30E+10 Ω – Pass |

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