NC270WR

Solder plus Support

HALOGEN FREE

VOC-Free No Clean Liquid Flux

Features:

- VOC-Free
- Low Post Process Residues
- Lead-Free Compatible
- Broad Process Window
- Halide-Free
- Excellent Wetting

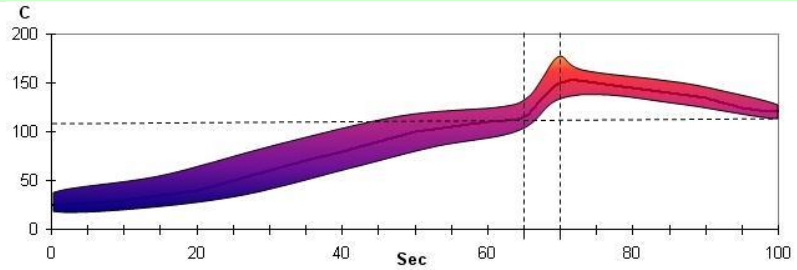
Description:

NC270WR is a VOC-free water-based, halide-free, no-clean liquid flux formulated to offer a very wide process window allowing for extremely good wetting, even to difficult-to-wet materials. 270WR offers a broad activation range, proving to be an excellent flux for a variety of process parameters and applications, including lead-free wave soldering with tin-silver-copper, tin-silver, tin-copper, and other alloys. 270WR offers low post-process residues and has proven to reduce preventative maintenance requirements for spray fluxing applications. In addition, 270WR offers low-fuming and fast solvent evaporation for a VOC-free flux. 270WR is designed to be a no-clean, non-visible residue flux, which can be cleaned if critical to the product application.

Application:

- NC270WR is ready to use directly from the container for spray systems.
- When spray fluxing, it is imperative that proper flux coverage and uniformity be achieved and maintained. A dry flux coating of 500 to 1500 micrograms per square inch is necessary.
- When complete 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.

Thermal Profile:



RATE of RISE 2-3 ºC / SEC MAX	PROGRESS THROUGH 66°C - 77°C (150 - 170ºF)	PCB TOP SIDE TEMP 90°C - 125°C (194ºF - 257ºF)	COOLDOWN ≤ 4ºC
	≤ 40 SECONDS	JUST BEFORE WAVE	

Cleaning:

NC270WR can be cleaned, if necessary, with water, and enhanced cleaning can be achieved through the use of a saponifier. Deionized water is recommended for the final rinse. A temperature of 38ºC - 65ºC (100° - 150°F) is sufficient for removing any residues. An in-line or other pressurized spray cleaning system is suggested, but is not required.

Handling:

- NC270WR has a sealed shelf life of nine (9) months at room temperature.
- Keep away from sunlight as it may degrade the product.
- NC270WR is shipped ready to use; no mixing is necessary.
- Do not mix used and unused chemical in the same container. Reseal any open containers.
- Optimal storage condition is 25°- 30°C (75° - 85ºF), acceptable storage conditions range from 4°- 40° C (40 - 100ºF).

Safety:

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

Physical Properties:

Parameter	Value
J-STD-004B	ORL0
Visual	Colorless to light yellow
Solids Content	3.76% Typical
Acid Number	34.54 mg KOH per gram flux Typical
Specific Gravity	1.01 Typical
pH (1% solution /water)	2.59 Typical

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	2.12E+10 Ω and 1.70E+10 Ω Pas
	Sample Coupons – pattern up	>1E+8 Ω at 96 and 168 hrs	1.70E+10 Ω and 1.49E+10 Ω Pas
	Sample Coupons – pattern down	>1E+8 Ω at 96 and 168 hrs	1.06E+10 Ω and 1.07E+10 Ω Pas
	Post-test visual inspection	No dendrite growth or corrosion	Pass
Bellcore GR-78 35°C / 85% 4 days	Sample Coupons – Pattern up	>1E+10 Ω	2.33E+10 Ω – Pass
	Sample Coupons – Pattern down	>1E+10 Ω	5.91E+10 Ω – Pass

Electromigration:

Test	Conditions	Specification	Results
Electromigration Bellcore GR-78 Flux Requirements	65°C/85% R.H. 500 hrs – Pattern up	Rf/Ri > 0.1	2.63E+10 Ω / 3.68E+10 Ω – Pass
	65°C/85% R.H. 500 hrs – Pattern down	Rf/Ri > 0.1	3.00E+10 Ω / 1.57E+10 Ω – Pass

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AIM Solder:

270WR