



R-8000



No Clean Liquid Flux

Features:

- Halide-Free
- Lead-Free Compatible
- Excellent Wetting
- Pin Testable Residues
- Can be Foamed, Sprayed, Misted, or Dipped
- Wide Process Window

Description:

R-8000 is a low solids no-clean liquid flux formulated to leave minimal post-process residues that are pin testable without cleaning. R-8000 offers an excellent activity level with good performance on bare copper, solder coated and organic coated PWBs, leaving negligible post-process residues that are non-conductive and do not require post-process cleaning. R-8000 has a unique chemistry and a wide process window, making it a drop in for most no-clean and RMA wave soldering operations, including lead-free wave soldering.

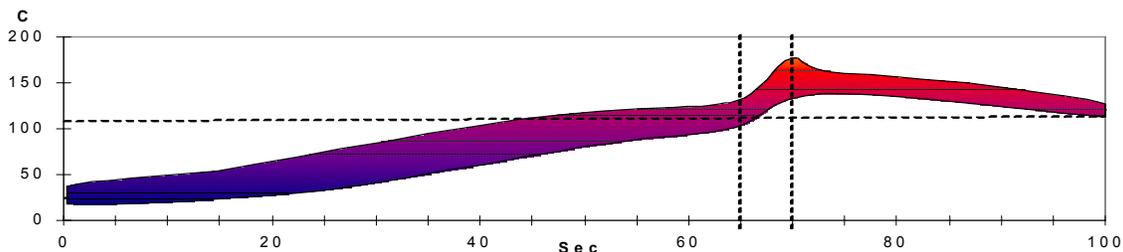
Flux Application:

- R-8000 is formulated for application via spray, foam, brush, mist, or dip. For spraying, R-8000 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 to 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.
- Monitoring and controlling the acid number is recommended for maintaining the flux composition. The acid number should be maintained between 17-19 MG KOH/GRAM or 24-28 drops using AIM's N.020 titration kit.

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. Specific gravity should be carefully maintained at $.79 \pm .01$.

Typical 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	

Note: Bottom Side Temperature Should be between 121°C - 163°C (250° - 325°F)

Cleaning:

R-8000 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 and Storage:

- R-8000 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.
- R-8000 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	ROL0
Visual	Clear, Colorless to light yellow
Odor	Alcohol like
Solids Content	3.3%
Acid Number	18.00 ±1.0 mg KOH per gram

Parameter	Value
Specific Gravity	0.79 ± 0.01 (water = 1)
Flash Point	< 10°C
Boiling Point	82.2°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	3.85E+12 Ω and 3.77E+12 Ω Pass
	Sample coupons – pattern up	>1E+8 Ω at 96 and 168 hrs	2.83E+10 Ω and 2.65E+12 Ω Pass
	Sample coupons – pattern down	>1E+8 Ω at 96 and 168 hrs	4.67E+12 Ω and 3.93E+12 Ω Pass
	Post-test visual inspection	No dendrite growth or corrosion	Pass

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