TECHNICAL DATA SHEET

CATEGORY: **NO-CLEAN LIQUID FLUX**

NAME: **291AX**

FEATURES

- IDEAL FOR LEAD TINNING
- AQUEOUS CLEAN WITH SAPONIFIER
- GOOD FOR COMPONENT OR PCB REWORK
- CAN BE BRUSHED, SPRAYED, DIPPED, OR FOAMED

* Passes BELLCORE and IPC, product testing results available upon request

DESCRIPTION

NC 291AX is a formulated blend of synthetic resins, glycol-ethers, and alcohol. Designed specifically for the implementation of a no-clean process, NC 291AX is easily dispensed, brushed, or it can be used as a dipping flux, foamed, or sprayed for wave solder applications. Fully compatible with all chemistries, 291AX is ideal for lead tinning, PWB or component rework, or other soldering applications where the flux will see a complete thermal cycle. This material has been utilized on various assemblies with RF designs without cleaning; however, the compatibility of flux residues on RF assemblies is strongly dependent upon circuitry design.

FLUX COMPOSITION

FLUX DENSITY	SOLIDS CONTENT	ACID VALUE
.795 ± .01	8%	7.4 +- 0.6

HANDLING

- NC 291AX 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.
- NC 291AX is shipped ready-to-use, no mixing necessary.
- Do not mix used and unused chemical in the same container. Reseal any opened containers.

FLUX APPLICATION

- When being used for rework, application should be limited to the area being worked. AIM Flux Dispensers or a cotton swab are recommended for localized flux application.
- For most tinning operations, the component lead should be immersed into the flux to a depth of approximately 50% of the desired solder flow in order to prevent excessive flux application.
- For spray fluxing applications, NC 291AX is ready to use directly from its container. No thinning is 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 foam fluxing, air stones should be supplied with compressed air, free of oil and moisture. Adjust foam head to achieve a uniform distribution of small bubbles for optimum flux coverage.
- During foaming applications it is periodically necessary to add flux thinner to replace that which is lost through evaporation. AIM Common Flux Thinner is recommended.

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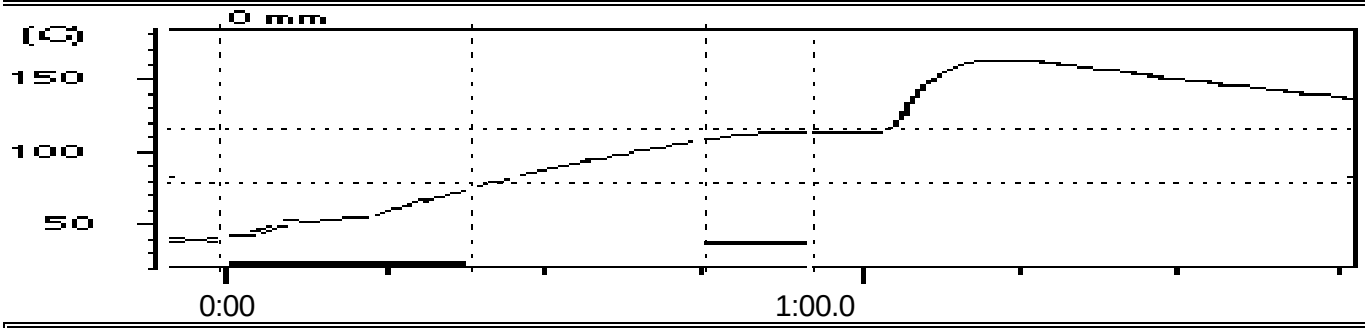
PROCESS CONTROL

Specific gravity should be monitored and controlled either with automated equipment or manually with a hydrometer for foam fluxing operations. Specific gravity should be maintained at .80 ± .01 for optimum performance. Dump and refill flux pot with fresh flux at least once per week when used daily.
For spray flux applications, ensure that proper coverage of pwb is maintained.

THERMAL PROFILE



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

NOTE:

BOTTOM SIDE TEMPERATURE SHOULD BE BETWEEN 250° - 310°F, (121° - 154°C)

FLUX TECH-TIPS

PROBLEM	**POTENTIAL CAUSE**
• **BRIDGING:**	INSUFFICIENT FLUX, EXCESSIVE PRE-HEAT, EXCESS CONVEYOR SPEED, SOLDER CONTAMINATION
• **SOLDER BALLS:**	LOW PREHEAT TEMPERATURE, EXCESS FLUX
• **WHITE RESIDUE:**	EXCESS FLUX, FLUX CONTAMINATION, SOLDER CONTAMINATION
• **DISCOLORED JOINT:**	SOLDER OXIDATION, BOARD/COMPONENT CONTAMINATION, EXCESSIVE HEAT

CLEANING

NC 291AX flux can be cleaned, if necessary, with saponified tap water. AIMTERGE 520. Deionized water is recommended for the final rinse. A temperature of 100° - 150°F is sufficient for removing any residues. An in-line or other pressurized spray cleaning system is suggested, but is not required.

PACKAGING

NC 291AX is available in flux pen dispensers, 8oz spray bottles, 1 and 5 gallon containers, and 55 gallon drums.

SAFETY

- Use with adequate ventilation and proper personal protective equipment.
- Refer to the accompanying **M**aterial **S**afety **D**ata **S**heet for any specific emergency information.
- Do not dispose of any lead-containing materials in non-approved containers.

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