



# DEVELOPMENTAL PRODUCT TECHNICAL DATA SHEET

CATEGORY:

**NO-CLEAN LIQUID FLUX**

NAME:

**NC265**

## FEATURES

- ROSIN- & RESIN-FREE
- LOW POST-PROCESS RESIDUES
- BROAD PROCESS WINDOW
- FAST WETTING FOR SN100C AND SAC ALLOYS
- LEAD-FREE & TIN-LEAD COMPATIBLE
- HALIDE-FREE

\* Passes BELLCORE (Telecordia GR-78-Core Flux Requirements) and IPC

## DESCRIPTION

**NC265** 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. NC265 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. NC265 offers low post-process residues and has proven to reduce preventative maintenance requirements for spray fluxing applications. NC265 is designed to be a no-clean, non-visible residue flux, which can be cleaned if critical to the product application.

## TYPICAL ANALYSIS

<b>SOLIDS CONTENT</b> 4.86%	<b>SPECIFIC GRAVITY @ 25°C</b> 0.80	<b>ACID VALUE</b> 35.76 MG KOH/G FLUX
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## HANDLING

- NC265 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.
- NC265 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

- NC265 is formulated for application via spray, foam, brush, mist, or dip. For spraying, NC265 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.

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## PROCESS CONTROL

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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.

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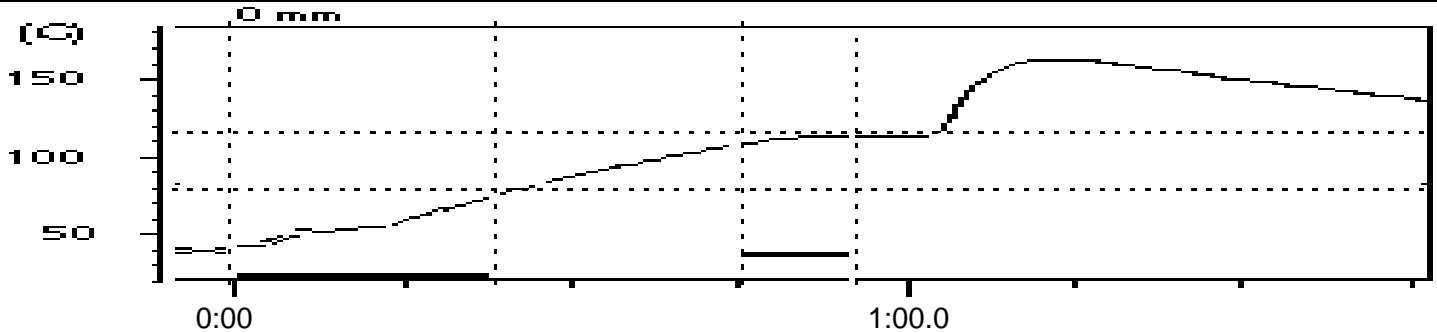
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## THERMAL PROFILE

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

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## FLUX TECH-TIPS

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<u>PROBLEM</u>	<u>POTENTIAL CAUSE</u>
• <b>BRIDGING:</b>	INSUFF. FLUX, EXCESSIVE PRE-HEAT, HIGH CONVEYOR SPEED, SOLDER CONTAMINATION
• <b>SOLDER BALLS:</b>	LOW PREHEAT TEMPERATURE, EXCESS FLUX
• <b>WHITE RESIDUE:</b>	EXCESS FLUX, FLUX CONTAMINATION, SOLDER CONTAMINATION
• <b>DISCOLORED JOINT:</b>	SOLDER OXIDATION, BOARD/COMPONENT CONTAMINATION, EXCESSIVE HEAT

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## CLEANING

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NC265 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.

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## SAFETY

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- 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.



# PRODUCT TESTING RESULTS

CATEGORY:

**NO-CLEAN LIQUID FLUX**

NAME:

**265**

## Telcordia GR-78-CORE (Bellcore) Testing

### Abstract

This report summarizes the test results of copper mirror, halide ion, and electromigration for AIM 265 Liquid Flux. The tests were conducted according to the requirements of Telcordia GR-78-CORE (Bellcore) Generic Requirements.

<u>Test</u>	<u>Conditions</u>	<u>Results</u>	<u>Spec.</u>
<b>Copper Mirror</b>	24 Hrs., 25C, 50%RH	<b>Low</b>	no holes in mirror
<b>Halide Test (Silver Chromate)</b>	ambient condition	<b>Passed</b>	no white ppt.
<b>Electromigration</b>	65°C/85% RH, 500Hrs. Initial Final	2.30E+10 Ohms 1.69E+11 Ohms <b>Passed</b>	$R_f / R_i > 0.1$

<b>Control</b>		<b>Initial</b>	<b>log Initial</b>	<b>Final</b>	<b>log Final</b>
#1	A	5.70E+10	10.7559	6.93E+10	10.8407
	B	6.93E+10	10.8407	8.27E+10	10.9175
	C	5.13E+10	10.7101	8.69E+10	10.9390
	D	4.74E+10	10.6758	8.06E+10	10.9063
#2	A	5.18E+10	10.7143	7.41E+10	10.8698
	B	6.89E+10	10.8382	7.90E+10	10.8976
	C	6.13E+10	10.7875	7.24E+10	10.8597
	D	6.17E+10	10.7903	7.34E+10	10.8657
#3	A	6.14E+10	10.7882	7.40E+10	10.8692
	B	2.81E+10	10.4487	8.12E+10	10.9096
	C	6.15E+10	10.7889	7.44E+10	10.8716
	D	5.96E+10	10.7752	7.45E+10	10.8722
<b>Average</b>		<b>5.53E+10</b>	<b>10.7428</b>	<b>7.67E+10</b>	<b>10.8849</b>
<b>NC 265</b>		<b>Initial</b>	<b>log Initial</b>	<b>Final</b>	<b>log Final</b>
#1	A	1.16E+10	10.0645	1.37E+11	11.1367
	B	1.54E+10	10.1875	1.47E+11	11.1673
	C	1.61E+10	10.2068	1.50E+11	11.1761
	D	4.55E+10	10.6580	2.56E+11	11.4082
#2	A	7.31E+10	10.8639	1.96E+11	11.2923
	B	6.67E+09	9.8241	8.39E+10	10.9238
	C	8.71E+10	10.9400	2.10E+11	11.3222
	D	3.41E+11	11.5328	3.31E+11	11.5198
#3	A	7.08E+09	9.8500	1.30E+11	11.1139
	B	1.85E+10	10.2672	1.81E+11	11.2577
	C	6.83E+09	9.8344	1.37E+11	11.1367
	D	1.30E+10	10.1139	1.94E+11	11.2878
<b>Average</b>		<b>2.30E+10</b>	<b>10.3619</b>	<b>1.69E+11</b>	<b>11.2285</b>

### Conclusions

The results of the qualification tests indicate that AIM 265 Liquid Flux meets the requirements of Telcordia GR-78-CORE (Bellcore) Generic Requirements. This material is approved for use.

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