NC257MD
SAC305

Lead-Free No Clean Solder Paste

Features:

- Designed for MyData MY500 Jet Printer
- Clear Pin-Probe Testable Residue
- Excellent Wetting, Even Leadless Devices
- Reduces Voiding Under Micro-BGAs
- 12-14 Hour Tack Time
- Vapor Phase Compatible

Description:

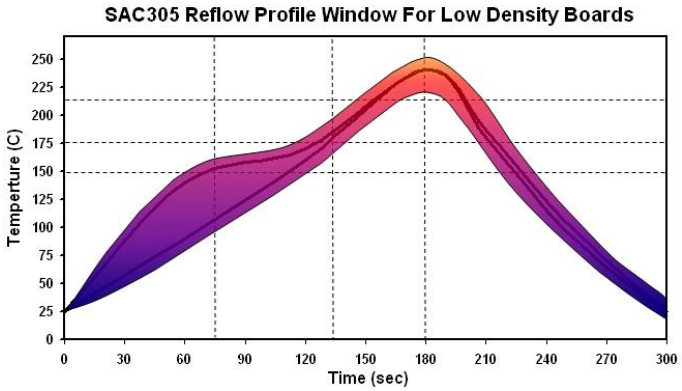
NC257MD solder paste has been specifically designed for the MyData MY500 Jet Printer. Its unique rheological properties were engineered and validated through extensive testing to provide continuous and consistent deposits. NC257MD provides the necessary tack time and force for today's high speed placement equipment, which will enhance product performance and reliability. The superior wetting ability of NC257MD results in bright, smooth and shiny solder joints. It also offers very low post process residues, which remain crystal clear and easily probed even at the elevated temperatures required for today's lead-free alloys.

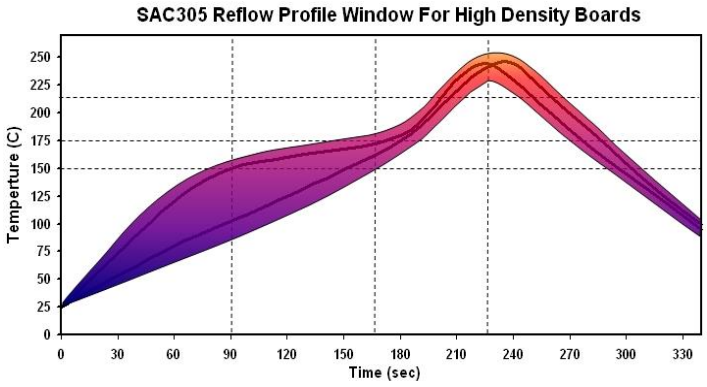
Packaging:

- Supplied in Iwashita 30cc syringes that are labeled with the standard MY500 Jet Printer bar code to provide easy product recognition and automatically set machine jetting parameters.

Reflow Profile:

Two unique profile families are depicted below; both can be used in ramp-spike or ramp-soak-spike applications, and they each have similar reflow temperatures. The two profiles differ in where they reach their respective peak temperatures, as well as the time above liquidus (TAL). The shorter profile of the two would apply to smaller assemblies, where as the longer profile would apply to larger assemblies, such as backplanes or high-density boards. The shaded area defines the process window. Oven efficiency, board size/mass, component type and density all influence the final profile for a given assembly. These profiles are starting points, and processing boards with thermal-couples attached is recommended to optimize the process.





RATE OF RISE 2°C / SEC MAX	*RAMP TO 150°C (302°F)*	*PROGRESS THROUGH 150°C-175°C (302°F-347°F)*	*TO PEAK TEMP 230°C-245°C (445°F-474°F)*	*TIME ABOVE 217°C (425°F)*	*COOLDOWN ≤ 4 °C / SEC*	*PROFILE LENGTH AMBIENT TO COOL DOWN*
Short Profiles	≤ 75 Sec	30-60 Sec	45-75 Sec	30-60 Sec	45± 15 Sec	2.75-3.5 Min
Long Profiles	≤ 90 Sec	60-90 Sec	45-75 Sec	60-90 Sec	45± 15 Sec	4.5-5.0 Min

- THE RECOMMENDED REFLOW PROFILE FOR NC257MD IS PROVIDED AS A GUIDELINE. OPTIMAL PROFILE MAY DIFFER DUE TO OVEN TYPE, ASSEMBLY LAYOUT, OR OTHER PROCESS VARIABLES. CONTACT AIM TECHNICAL SUPPORT IF YOU REQUIRE ADDITIONAL PROFILING ASSISTANCE.
- THE REFLOW PROFILE FOR THE SnAgCu PASTES USING A VAPOR PHASE REFLOW OVEN: PEAK TEMPERATURE RANGE IS 230℃ – 245℃.

NC257MD Compatible Products:

- AIM Lead-Free Electropure Solder Bar
- NC264-5 No-Clean Flux Spray/Foam
- NC270WR VOC-Free No-Clean Spray Flux
- Glowcore No-Clean Cored Wire
- NC No-Clean Tacky Flux
- 4044 Chip Bonding Epoxy
- One-Step Underfill 688

Cleaning:

- NC257MD can be cleaned if necessary with saponified water or an appropriate solvent cleaner.
- Please refer to the AIM cleaner matrix for a list of compatible cleaning materials.

Handling and Storage:

- HANDLE EXACTLY AS NOTED FOR BEST PERFORMANCE.
- NC257MD has a **frozen** shelf life of 6 months at -18° C (0° F).
- Removed from the freezer, NC257MD can be stored refrigerated for up to 1 month at +4° to +6° C (40°-42° F).
- Allow the solder paste to warm up completely and naturally to ambient temperature prior to use. From -18° C (0° F) this will take approximately 12 hours. From +4° to +6° C (40° - 42° F) this will take approximately 4 hours.
- Daily replacement with a fresh syringe of paste can prolong ejector life and optimize performance.

Physical Properties:

ITEM	*SPECIFICATION*
Appearance	Gray, Smooth, Creamy
Alloy	SAC305
Melting Point	217° - 218°C
Particle Size	T5

ITEM	*SPECIFICATION*
Metal Loading	86%
Viscosity	Suitable for MY500 Jet Printers
Packaging	Iwashita 30cc Syringes

Test Data Summary:

CLASSIFICATION			
Product Name	IPC Classification to J-STD-004	Copper Mirror to J-STD-004B	Silver Chromate to J-STD-004B
NC257MD	ROL0	LOW	PASS
POWDER TESTING			
No.	Item	Results	Test Method
1	Powder Size	Type 5 – 25-15 microns	IPC TM 650 2.2.14
2	Powder Shape	Spherical	Microscope
FLUX MEDIUM TESTING			
No.	Item	Results	Test Method
1	Acid Value	150.2 mg KOH/ g flux	J-STD-004B IPC TM 650 2.3.13
2	Halide Content	< 300 PPM	J-STD-004B IPC TM 650 2.3.35
3	Fluorides Spot Test	No fluoride	J-STD-004B IPC TM 650 2.3.35.1 J-STD-004B IPC TM 650 2.3.35.2
4	Corrosivity Test/ Copper Mirror	Low	J-STD-004B IPC TM 650 2.3.32
5	Corrosion Flux	Pass	J-STD-004B IPC TM 650 2.6.15
6	Halide-Free/Silver Chromate Paper Test	Pass	J-STD-004B IPC TM 650 2.3.33
7	Surface Insulation Resistance	> 1E9Ω at 96 and 168 h.- pass > No dendrite growth or corrosion, after a visual inspection - pass	J-STD-004 IPC TM 650 2.6.3.3
8	Telcordia (Bellcore) SIR	35°C, 85% 4 days Initial: 8.43E+12Ω, Final : 8.03E+12Ω Requirement > 1.0E+10Ω - pass	GR-78-CORE
9	Telcordia (Bellcore) Electromigration	65°C, 85% 500 hrs Initial: 1.94E+10Ω, Final : 2.08E+10Ω R*f*/Ri > 0.01 - pass	GR-78-CORE
SOLDER PASTE TESTING			
No.	Item	Results	Test Method
1	Tack Test	32.8 g	J-STD-005 IPC TM 650 2.4.44
2	Tack Test	94.8 g	JIS Z 3284 Annex 9
3	Solder Ball Test	Pass	J-STD-005 IPC TM 650 2.4.43
4	Wetting Test	Pass	J-STD-005 IPC TM 650 2.4.45
5	Paste Shelf Life	4° - 12°C (40° - 55°F) = 6 months	AIM TM 125-11
6	Solder Paste Slump Test	Pass	J-STD-005 IPC TM 650 2.4.35

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AIM IS ISO9001:2008 & ISO14001:2004 CERTIFIED

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