

AMTECH

Advanced SMT Solder Products

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An ISO 9001 Certified Company

Product Data Sheet

NC-31 No-Clean Solder Paste

Product Description

- Exceptional print definition
- Long stencil life
- Designed for low temperature alloys
- Excellent wetting compatibility on most board finishes

Alloys

AMTECH manufactures a low-oxide, spherical and uniformly sized powder. NC-31 is available in the following alloys: 42Sn/58Bi and 43Sn/43Pb/14Bi.

Powder Distribution

Micron Size	Type	Pitch Requirements
75 - 45	Type-2	24mil & above
45 - 25	Type-3	16mil to 24 mil
38 - 25	Type-4	12mil to 16mil
32 - 20	Type-5	<12mil
<20	Type-6	<8mil

Available Packaging

The following packaging options are available for stencil printing and dispensing applications: 250g and 500g jars; 250g and 700g cartridges; 750g ProFlow® cassettes; 35g and 100g syringes;

Stencil Life

3 - 5 hrs. @ 30–45% RH & 22–25°C

Viscosity

Printing applications: 650 to 850Kcps +/-10%
Dispensing applications: 350 to 550Kcps +/-10%
Tested according to IPC-TM-650

Tack Value

Typical tackiness: 48g force

Printing

The print definition of NC-31 is ideal for fine pitch applications. Consult the powder distribution chart to determine your mesh size requirements.

Printer Operation

The following are general guidelines for stencil printer optimization with NC-31. Some adjustments may be necessary based on your process requirements.

Print Speed: 25–100mm/sec

Squeegee Pressure: 0.2–0.7kg/inch of blade

Under Stencil Wipe: Once every 10–25 prints or as necessary

Stencil Cleaning

Automated stencil cleaning systems for both stencil and misprinted boards. Manual cleaning using 99% isopropyl alcohol (IPA) works well.

Storage and Handling Procedures

Refrigerated storage at 42–47°F will prolong the solder paste shelf life to no less than 6 months. Syringes & cartridges should be stored vertically with the dispensing tip down. Solder paste should be allowed to reach ambient temperature naturally, prior to use (about 6-8 hours). NEVER FREEZE SOLDER PASTE.

(continued)

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NC-31 Solder Paste

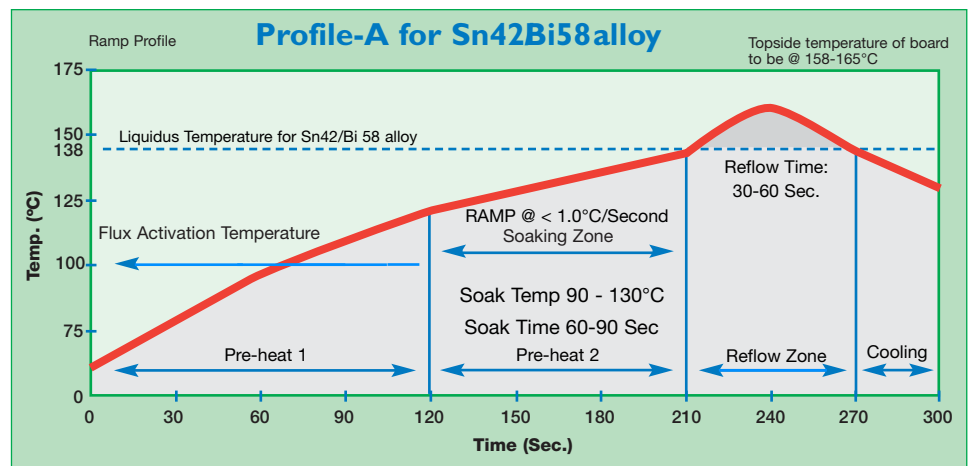
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J-STD-004 (IPC-TM-650) Test Results

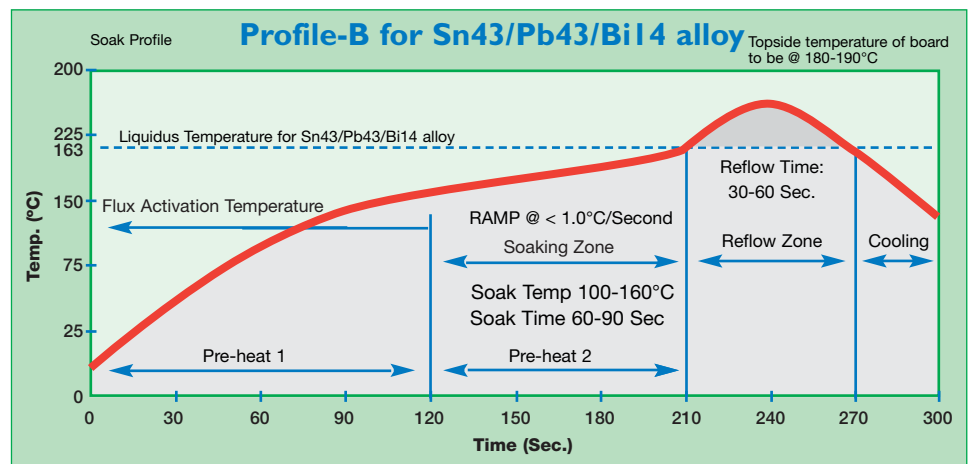
Test	Standard	Values	Results
Flux Designator	IPC-TM-650 2.3.35	NA	RELO
Copper Mirror	IPC-TM-650 2.3.32	NA	PASS
Silver Chromate	IPC-TM-650 2.3.33	NA	PASS
SIR Test	IPC-TM-650 2.6.3.3	2.00E+10	PASS

Recommended Profiles:

Profile-A was designed to serve as a starting point for process optimization using NC-31. A cool down rate of (-) 2–4°C/second is ideal for the formation of a fine grain structure without risking damage to thermally sensitive components.



Profile-B was designed to serve as a starting point for process optimization using NC-31. A cool down rate of (-) 2 - 4°C/second is ideal for the formation of a fine grain structure without risking damage to thermally sensitive components.



The information contained herein is based on technical data that we believe to be reliable and is intended for use by persons having technical skill, at their own risk. Users of our products should make their own tests to determine the suitability of each product for their particular process. AMTECH will assume no liability for results obtained or damages incurred through the application of the data presented.

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