



## Product Data Sheet

# LF-4300 Lead-free Water Washable No-Clean Solder Paste

### Product Description

- Synthetic materials
- Can reflow high temperature alloys up to 300°C
- Complies with RoHS directive 2002/95/EC
- Excellent wetting compatibility with most board finishes
- Low voiding and mid-chip beading
- Residue can be left on or removed using water

### Alloys

Hirsch Metals manufactures a low-oxide, spherical and uniformly sized powder. LF-4300 is available in the following alloys: Sn96.5/Ag3.0/Cu.5, Sn96.5/Ag3.5, Sn99.3/Cu.7, Sn95/Sb5 and Sn95/Ag5 alloys.

### Powder Distribution

Micron Size	Type	Pitch Requirements
75 - 45	Type-2	24mil & above
45 - 25	Type-3	16mil to 24 mil
38 - 20	Type-4	12mil to 16mil
25 - 15	Type-5	<12mil
15 - 5	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<sup>®</sup> cassettes; 35g and 100g syringes; 2,500g FreshMix<sup>®</sup> Kits.

### Stencil Life

>8 hrs. @ 30–45% RH & 22–25°C  
~4 hrs. @ 45–70% RH & 22–25°C

### Viscosity

Printing applications: 600 to 900Kcps +/-10%  
Dispensing applications: 400Kcps +/-10%  
Tested according to IPC-TM-650

### Tack Value

Typical tackiness: 37g force

### Printing

The print definition of LF-4300 is ideal for fine pitch applications. The stencil life of this water-soluble product virtually eliminates waste of solder paste. Consult the powder distribution chart to determine your mesh size requirements.

### Printer Operation

The following are general guidelines for stencil printer optimization with LF-4300. 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 water at 60°C or 99% isopropyl alcohol (IPA). Post-reflow cleaning using water at 40–60°C with 30–50 PSI pressure.

### 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.

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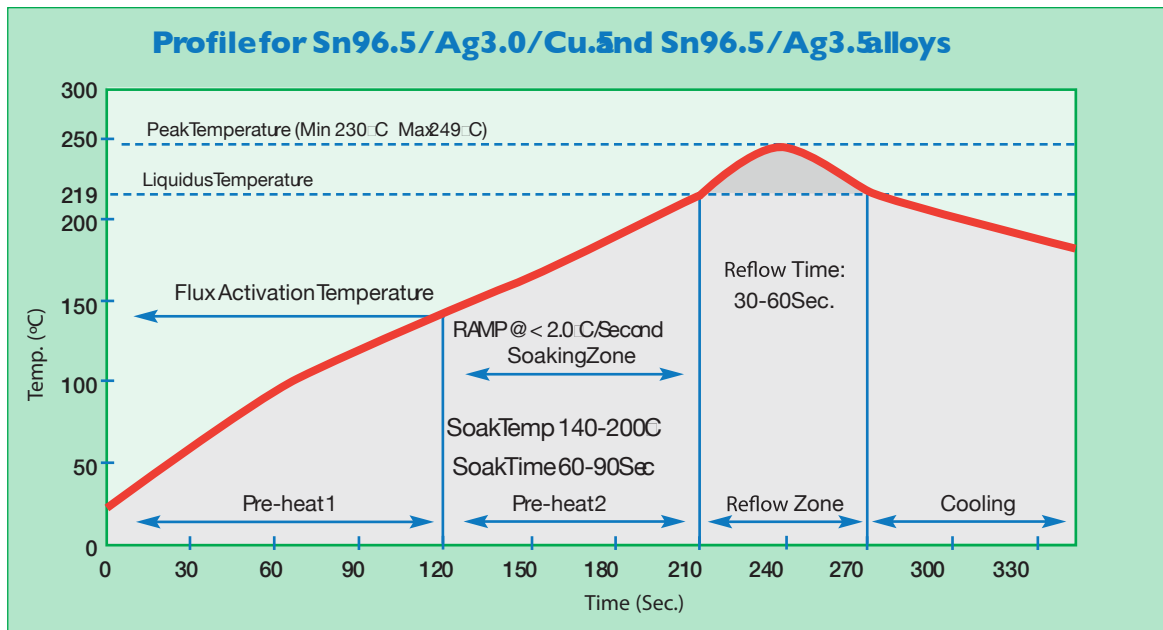
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## J-STD-004(IPC-TM-650) Test Results

Test	Standard	Values	Results
Flux Designator	IPC-TM-650 2.3.35	NA	RELO

### Recommended Profile:

This profile was designed to serve as a starting point for process optimization using LF-4300. 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.



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