ELECTRONIC SOLDERS

# BOW WS-1250.6
# Water Soluble Solder Paste

## Product Description

- Synthetic polymer activator system
- Long stencil life
- Wide process window
- Excellent wetting on OSP
- Increased wetting on oxidized components
- Low Voiding
- Compatible with enclosed printing heads
- IPC Flux Designation REH1

## Alloys

Manufactured with low-oxide, spherical and uniformly sized powder. Bow WS-1250.6 is available in the following alloys: Sn63/Pb37, Sn62/Pb36/Ag2, Sn60/Pb40, Sn43/Pb43/Bi14, Sn42/Bi58 and SN100C alloys.

## Powder Distribution

| Micron Size | Type | Pitch Requirements |
|---|---|---|
| 75 – 45 | Type 2 | 24 mil & above |
| 45 – 25 | Type 3 | 16 mil to 24 mil |
| 38 – 20 | Type 4 | 12 mil to 16 mil |

| Micron Size | Type | Pitch Requirements |
|---|---|---|
| 25 – 15 | Type 5 | < 12 mil |
| 15 - 5 | Type 6 | < 8 mil |

## 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

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

## Viscosity

Printing applications: 600 to 800 Kcps +/- 10%
Dispensing applications: 350 to 425 Kcps +/- 10%
Tested according to IPC-TM-650

## Tack Value

Typical tackiness 34g force

## Printing

The print definition of Bow WS-1250.6 is ideal for fine pitch applications. The stencil life of this water soluble activated product virtually eliminates the 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 Bow WS-1250.6. Some adjustments may be necessary based on your process requirements.

- Print Speed: 25-100 mm/sec
- Squeegee Pressure: 0.2-0.7 kg/inch of blade
- Under Stencil Wipe: Once every 10-25 prints or as necessary.

## Stencil Cleaning

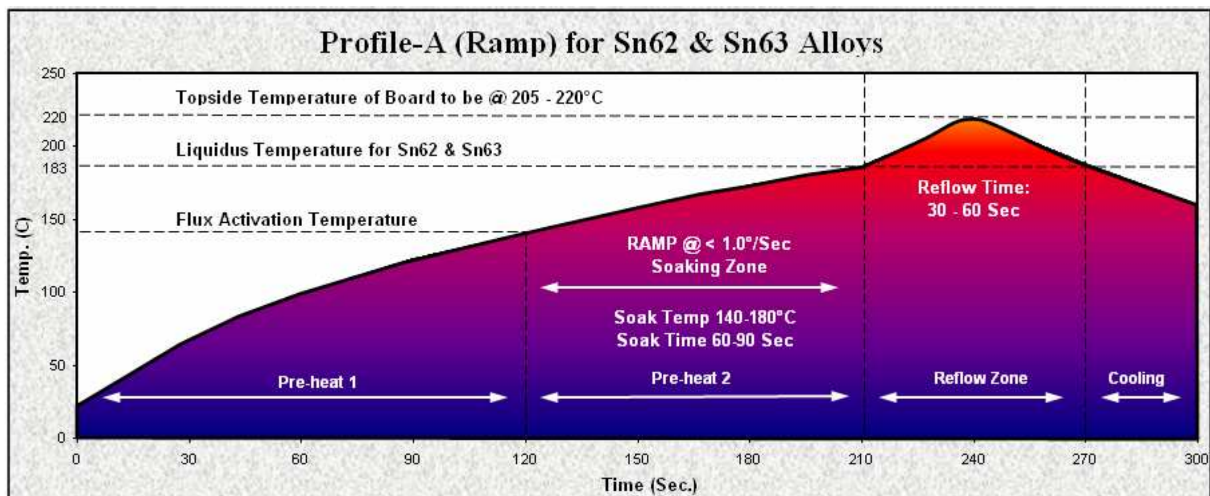
Automated stencil cleaning systems for both stencil and misprinted boards. Manual cleaning using water at 60°C or 99% isopropyl alcohol (IPA). Post-reflow cleaning using water at 60°C with 50 PSI pressure.

## Storage and Handling Procedures

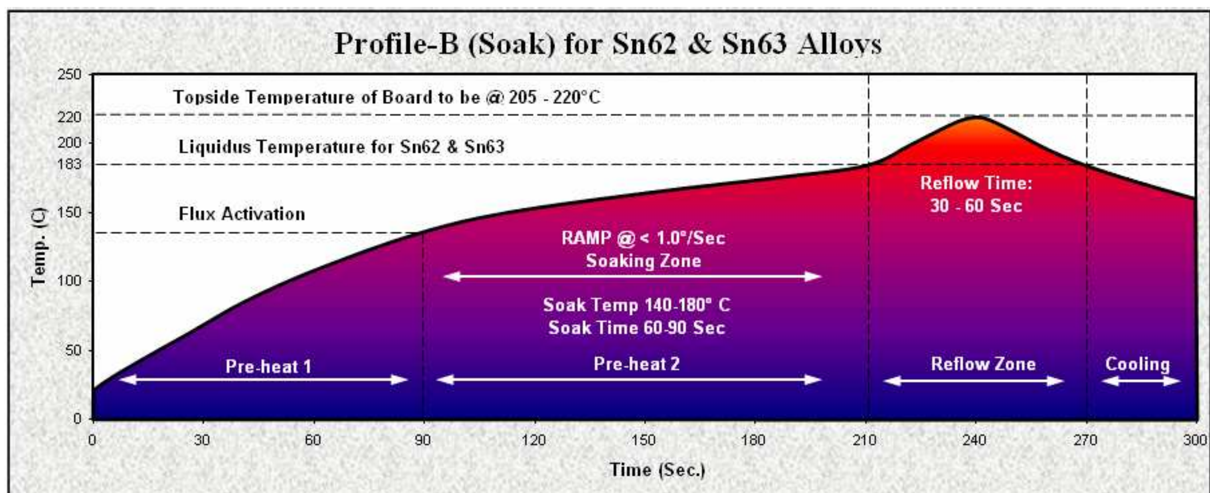
Refrigerated storage at 42-47° F will prolong the solder paste shelf life to no longer than 6 months. Syringes & cartridges should be stored vertically with the dispensing tip down. Solder paste should be allowed to reach ambient temperature naturally, prior to use (about 6-8 hours). NEVER FREEZE SOLDER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

## Recommended Profiles:

Profile-A was designed to serve as a starting position for process optimization using Bow WS-1250.6. 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 utilizing a soak of up to two minutes at 155°C may help to minimize voiding in BGA assembles. This will allow more time for solvent components of the solder paste to outgas prior to reflow.



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

| Bow WS-1250.6 Water Soluble Solder Paste | | | |
|---|---|---|---|
| **Test** | **Standard** | **Values** | **Results** |
| Flux Designation | IPC-TM-650 2.3.35 | N/A | REH1 |

Refer to the MSDS for additional safety information.

The information contained herein is based on data consideration to be accurate and is intended for use by persons having technical skills at their own discretion and risk. Since conditions of use are outside of Bow Electronics control, we cannot assume liability for results obtained or damage incurred due to misuse, nor can we assume customer liability.

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