SUPERIOR
SOLDER PASTE 88-13-8975

- ♦ **Formula 88:** **RMA Water-Soluble**
- ♦ **Type 3 Powder: -325/+500 Mesh Powder**
- ♦ **Class 1 Alloy: Sn63/Pb37**
- ♦ **Metal Content: 89.75%**

- ◈ Passes Bellcore requirements
- ◈ Superior wetting characteristics, lot-to-lot consistency, and stable viscosity
- ◈ Halide-free, halogen-free
- ◈ Capable of printing 16 mil pitch with 25-45µ powder
- ◈ Residues are completely Water-Soluble
- ◈ For Nitrogen or air atmosphere reflow ovens
- ◈ Passes IPC Tests. Classified as ROL0
- ◈ No slump
- ◈ Long tack time
- ◈ Air reflow
- ◈ For HASL, ENIG and OSP PCBs
- ◈ Viscosity is 700,000 - 8500,000 kcps*

** Viscosity can be adjusted to meet process requirements.*

RECOMMENDED PROCESSING GUIDELINES

I. PRINTING

Tack Time for ***Superior Solder Paste 8813-8975*** is seven (7) hours between printing, placement and reflow under ambient conditions below 23°C/74°F and a relative humidity below 60%. The exact time will depend on the environmental condition of the solder paste and plant. The ideal temperature range for operation of the solder paste is 20°C/68°F – 23°C/74°F, with a relative humidity of 35-55%. The viscosity of this solder paste is 700,000 to 850,000 kcps on the Brookfield viscometer.

Should printed circuit boards need to be stored for more than 8 hours prior to reflow after populating, it is recommended that PCBs are maintained in a tightly controlled area. Humidity should be controlled between 35% - 55% and temperature should not exceed 23°C/74°F.

II. RECOMMENDED REFLOW PARAMETERS

Sn63/Pb37 in Water-Soluble Formulation

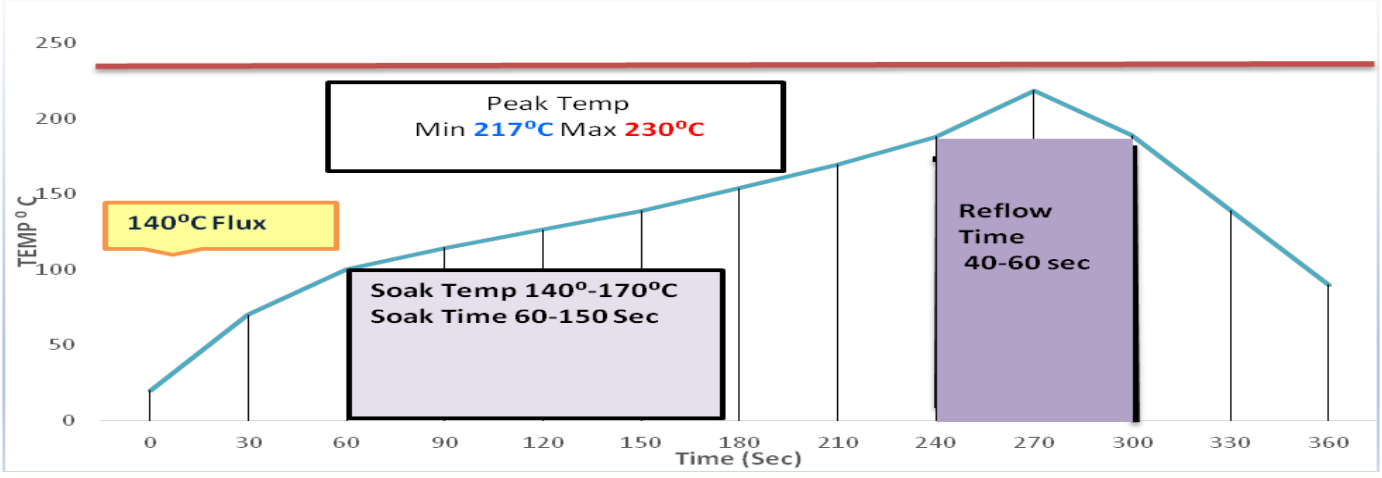
❶ **PREHEAT ZONE**: Ramp from room temperature to 140°C (Flux Activation) in 45-120 seconds to dry the volatiles from the solder paste.

❷ **SOAK ZONE**: Ramp from 140-170°C in 30-60 seconds to get uniform temperature equilibrium of PCB.

❸ **REFLOW ZONE**: 1) Ramp from a temperature of 170°C to 220°C for a period of 40 - 60 seconds*.
* Time above 220°C should not exceed 60 seconds.

❹ **COOLING ZONE:** A cool down rate of 1-2°C per second is recommended for optimum results.

❺ **CLEANING LAG TIME**: Cleaning efficiency is not affected by lag time between the reflow and cleaning process. Boards can be batched to clean over five (5) days with no degradation to the solder joints.



Superior manufactures quality fluxes. Our business is solving problems.

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III. POST-SOLDER CLEANING

Superior Solder Paste 8813-8975 is a RMA Water-Soluble paste formulated for post-reflow cleaning in aqueous in-line or batch cleaning systems. A water temperature of 55°C/130°F - 70°C/158°F is recommended for the removal of post-solder residues, while the addition of ***Superior SyberKleen 2000*** Saponifier may be incorporated to add a detergent to the cleaning process.

Wet solder paste is easiest to remove using water. If printing interval exceeds two (2) hours, remove solder paste from screen stencil and store in a separate container.

IV. STENCIL CLEANING

Stencils should always be cleaned using water in semi-automated stencil cleaning systems; with hand wipes; or by hand-wiping the stencils. ***Residues are water-soluble and easily removed by Isopropanol Alcohol 98% and above.***

V. STORAGE

The following conditions are recommended to achieve long-term stability and the assurance of fresh solder paste:

- To achieve a shelf life of **6 months**, store in a refrigerator below **3-5.5°C/38-42°F**.
- A storage time of up to **3 months** can be expected in ambient room temperatures below **26.66°C/80°F.**
- Avoid direct sunlight.
- Store syringes by standing with tip down.
- Do not place syringes back in refrigeration after use.
- **Bring jars, cartridges to room temperature naturally for a minimum of 7 hours before use**.

VI. SAFETY

Superior Solder Paste 8813-8975 is a product formulated for use in assembly processes that require safety precautions be taken. Avoid contact with skin and eyes. When using, do not eat, drink, or smoke. Wear gloves and eye protection. Most alloys contain lead; wash hands if hands come in contact with the product.

Observe industrial hygiene and safety practices to assure conformance with local, state, and federal safety health and environmental regulations.

Adequate ventilation should be provided when soldering. Consult the Safety Data Sheet (SDS) for additional information.

VII. PACKAGING

- Jars of 250 or 500 grams available.
- Cartridges available in 500 gram, 600 gram, and 700 gram amounts.
- Syringes available in 10cc (10-30 grams) and 30cc (50-75 grams) sizes.
- Squeezer Packs in 10 gram size

VIII. TECHNICAL TEST DATA

QQS-571E

Resistivity of Water Extract:	215,000 Ohm/CM^2	*Pass*
Silver Chromate Paper Test:		*Pass*
Copper Mirror Test:		*Pass*

ANSI/IPC SF-818

Copper Mirror Test:	*Pass*
Silver Chromate Paper Test:	*Pass*
Solids Content, Alloy:	*89.75%*
Halide Content:	*-0-*

Bellcore (TR-NWT-000078)

Halogen Content:	*-0-*
Copper Mirror Test	*Pass*
Surface Insulation Resistance Test	*Pass*

ANSI/IPC SP-819

Solder Ball Test:	*Pass*
Wetting Test:	*Pass*
Slump:	*-0-*

Alloy conforms to Mil-STD-45662 and Mil-I-45208

IPC-J-STD-004, 005, 006: *Pass*

Classified: ROL0

pH of base flux: *8.1*

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