SUPERIOR
SOLDER PASTE 592-33-885

- ♦ **Formula 592:** **No-Clean**
- ♦ **Type 3 Powder:** **45 - 25µ**
- ♦ **Class 1 Alloy:** **Sn96.5/Ag3.5**
- ♦ **Metal Content:** **88.5%**

- ◈ Passes Bellcore requirements, RoHS compliant
- ◈ Superior wetting characteristics, lot-to-lot consistency, and stable viscosity
- ◈ Halide-free, halogen-free
- ◈ Capable of dispensing 16 mil pitch
- ◈ Residues are Non-Soluble in water. Residues act as a conformal coating
- ◈ For Nitrogen or air atmosphere reflow ovens
- ◈ Passes IPC Tests
- ◈ No slump
- ◈ Long tack time
- ◈ Air reflow
- ◈ For HASL, ENIG and OSP PCBs
- ◈ Viscosity is 650,000 - 800,000 kcps*

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

RECOMMENDED PROCESSING GUIDELINES

I. PRINTING

Tack Time for ***Superior Solder Paste 592-33-885*** is seven (7) hours between printing and or dispensing for placements 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 650,000 to 800,000 +/- 10% 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

Sn96.5/Ag3.5 in No-Clean Formulation

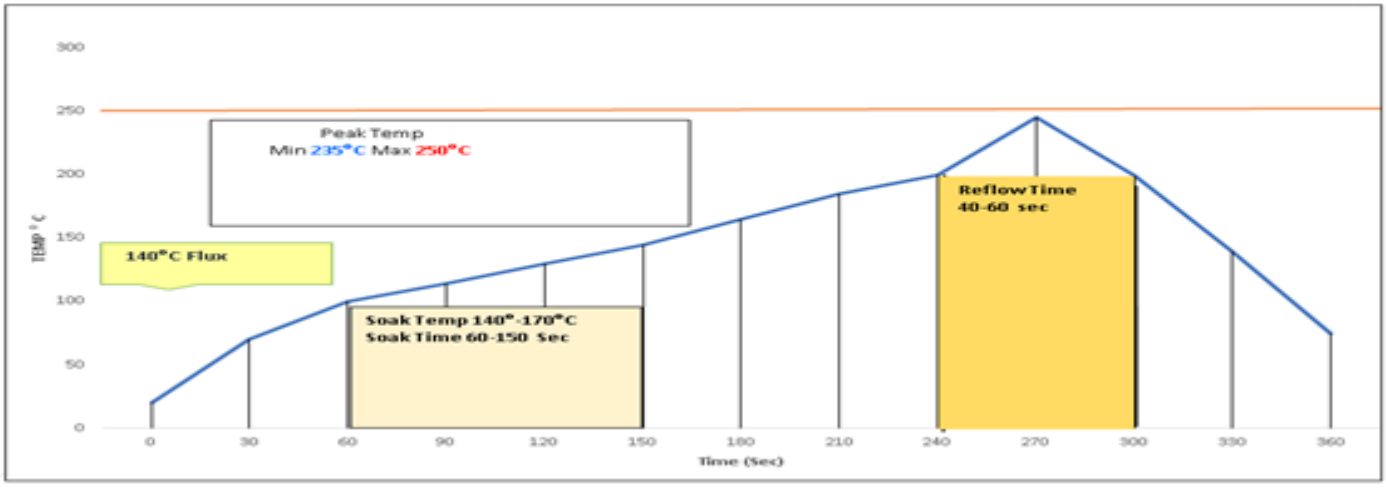
❶ **PREHEAT ZONE**: Ramp from room temperature to 140°C (Flux Activation) in 45-60 seconds to dry the volatiles from the solder paste.

❷ **SOAK ZONE**: Ramp from 40-140°C in 60-150 or 3-4° per second to get uniform temperature equilibrium of PCB.

❸ **REFLOW ZONE**: 1) Ramp from a temperature of 140°C to 245°C for a period of 40 - 60 seconds*.
* Time above 245°C should not exceed 60 seconds in liquidus if possible.

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

❺ **CLEANING LAG TIME**: No Cleaning Needed. A small hard conformal coating is left to protect the solder joint.



Superior manufactures quality fluxes. Our business is solving problems.

Superior Flux & Mfg. Co. 6615 Parkland Blvd. • Cleveland, OH 44139 • Phone: 440-349-3000 • Fax: 440-349-3003 www.superiorflux.com • e-mail: info@superiorflux.com

III. POST-SOLDER CLEANING

Superior Solder Paste 592-33-885 is a No-Clean paste and designed for not cleaning as the residue acts as a conformal protective coating on the solder and around the solder joint. If cleaning is desired, a water temperature of 55°C/130°F - 70°C/158°F is recommended for the removal of post-solder residues, with the addition of ***Superior SyberKleen 2000*** Saponifier must be incorporated to the cleaning process for residue removal.

Wet solder paste is easiest to remove using IPA (Isopropanol Alcohol). 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 alcohol or solvent based materials in semi-automated stencil cleaning systems; with hand wipes; or by hand-wiping the stencils. ***Isopropanol and/or other alcohol solvents should be used for the cleaning process for solder paste removal***.

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.
- Avoid direct sunlight.
- Store syringes by standing with tip down.
- Do not place syringes back in refrigeration after use.
- Bring jars and syringes to room temperature naturally for a minimum of 7 hours (jars) and 3 hours (syringes) before use.

VI. SAFETY

Superior Solder Paste 592-33-885 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, 700 and 1,200 gram amounts.
- Syringes available in 10cc (10-35 grams) and 30cc (50-75 grams) sizes.
- Squeezer packs available in 10 gram size.

VIII. TECHNICAL TEST DATA

QQS-571E			**ANSI/IPC SF-818**	
Resistivity of Water Extract:	215,000 Ohm/CM^2	*Pass*	**Copper Mirror Test:**	*Pass*
Silver Chromate Paper Test:		*Pass*	**Silver Chromate Paper Test:**	*Pass*
Copper Mirror Test:		*Pass*	**Solids Content, Alloy:**	*88.5%*
			Halide Content:	*-0-*

Bellcore (TR-NWT-000078)		**ANSI/IPC SP-819**	
Halogen Content:	*-0-*	**Solder Ball Test:**	*Pass*
Copper Mirror Test:	*Pass*	**Wetting Test:**	*Pass*
Surface Insulation Resistance Test:	*Pass*	**Slump:**	*-0-*

Metal Compliance*:* J-STD-006C Amendments 1&2 (Solder Alloys and Fluxed/Non-Fluxed Solders): *Yes*

RoHS Compliant: RoHS 2 Directive 2011/65EU: *Yes* **IPC-J-STD-004, 005, 006C:** *Yes*

Base Flux pH*:* *6.7* **Flux Description:** *ROL0*

Superior Flux & Mfg. Co. 6615 Parkland Blvd. • Cleveland, OH 44139 • Phone: 440-349-3000 • Fax: 440-349-3003 www.superiorflux.com • e-mail: info@superiorflux.com