

# Technical Product Information

## Lead-free Solder Paste AP-10 Sn(Ag)Cu

### Product Description

Solder Paste AP-10 has been designed as a no clean, air or nitrogen reflowable solder paste. This formula has a wider process window and shows better activity on OSP boards than previous no clean formulations. AP-10 is a solder paste that maintains its activity and printing characteristics for up to 8 hours without shear thinning. AP-10 can tolerate printing pauses of up to 60 minutes with an effective first print down to 0.5 mm. The residues from AP-10 are light amber and clear from solder balls. AP-10 flux residues are light amber and washable with alcohols and/or commercial cleaners.

- Very good wetting behaviour on most surfaces
- Good feeding & dosability
- Very long stencil life
- Very good tack time
- J-STD-004 Flux classification: ROL1
- Suitable for all soldering processes with indirect heating
- Good washability of residues

### Surface Insulation Resistance

J-STD-004, IPC-TM-650, Method 2.6.3.3

AP-10, uncleaned after 24 h:	9.6 x 10 <sup>8</sup> Ω
AP-10, uncleaned after 96 h:	1.0 x 10 <sup>9</sup> Ω
AP-10, uncleaned after 168 h:	1.0 x 10 <sup>9</sup> Ω
Control board after 24 h:	1.1 x 10 <sup>10</sup> Ω
Control board after 96 h:	1.2 x 10 <sup>10</sup> Ω
Control board after 168 h:	1.2 x 10 <sup>10</sup> Ω

### Test Results

**Tackiness: > 8 hrs**

**Slump test: pass**

IPC-TM-650, Method 2.4.35

**Solderballing Test: pass**

IPC-TM 650, Method 2.4.43

**Copper Mirror Corrosion: L**

IPC-TM-650, Method 2.3.3

**Silver Chromate: pass**

IPC-TM-650, Method 2.3.35.1

### Physical Properties

Data for Sn(Ag)Cu solders, 85 – 88 % metal, Powder type 3, 4, 5

### Viscosity 350 – 800 Pa·s

Alloy	Powder Type	Melting Range	Metal Content for Stencil or Sieve Printing	Metal Content for Dispensing
Sn99.3Cu0.7	T3 (25 – 45 μm)	227 °C	87 – 89 %	85 – 87 %
Sn96.5Ag3Cu0.5	T3 (25 – 45 μm)	217 – 219 °C	87 – 89 %	85 – 87 %
Sn96.5Ag3Cu0.5	T4 (20 – 38 μm)	217 – 219 °C	87 – 89 %	85 – 87 %
Sn96.5Ag3Cu0.5	T5 (15 – 25 μm)	217 – 219 °C	86 – 88 %	85 – 86 %

### Application

Solder paste AP-10 can be applied by dispensing, stencil or sieve printing.

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### Cleaning

AP-10 is a no clean paste. Residues do not need to be removed in most cases, if cleaning is required solvents like ethanol, isopropanol or mixtures of alcohols and halogenated hydrocarbons as well as commercially available cleaners can be used for effective cleaning.

### Packaging

Jars: 250 g and 500 g                      Cassettes: DEK PRO-FLOW™ Cassettes  
Cartridges: 600 g and 1200 g              Syringes: 10 cc and 30 cc

### Storage and Shelf Life

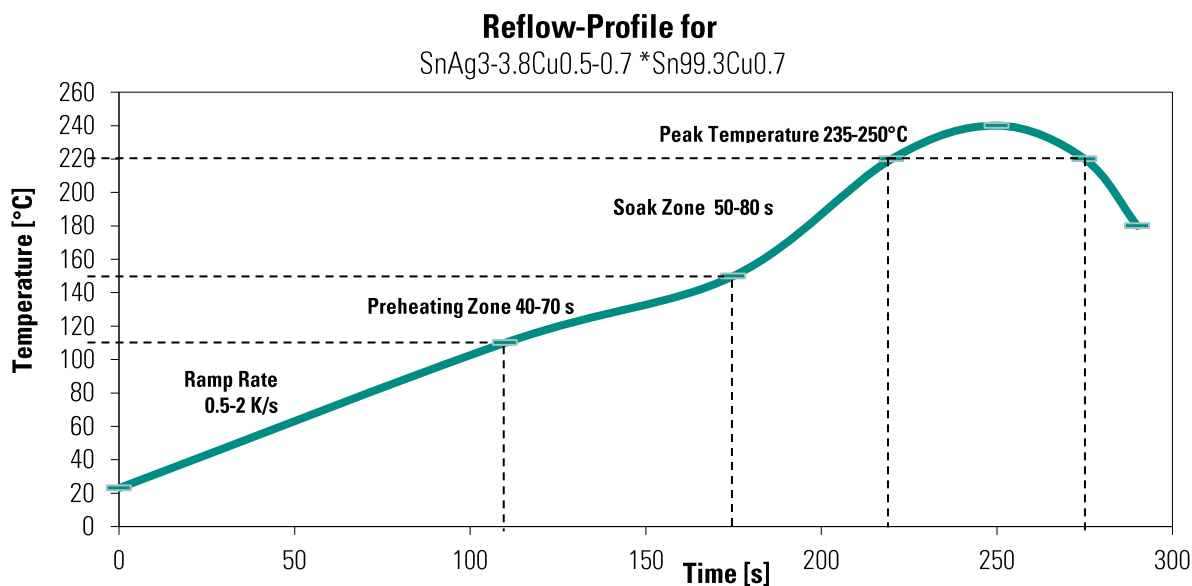
Jars: up to 6 months  
Cartridges: up to 6 months                      Syringes: up to 3 months

Refrigerated storage at 6 – 16 °C is recommended for extended storage times. The material should be allowed to reach room temperature by itself before opening containers to avoid condensation of moisture on the cold material.

### Printing

Squeegee: Stainless Steel                      Stencil/Sieve: Stainless Steel  
Speed: 25 – 50 mm/s                          Environment: Recommended temperature range 21 – 25 °C, RH 40 – 65 %

### Reflow Profile



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. TAMURA ELSOLD will assume no liability for results obtained or damages incurred through the application of the data presented.