Metallic Resources

MetaPaste™ WS-200
Water Soluble Paste
Product Bulletin

An Excellent Water Soluble Paste

Metallic Resources' MetaPaste WS-200 is an organically activated water soluble solder paste manufactured as a self-neutralizing homogeneous mixture of special low oxide content Sn63 spherical solder powder, liquid flux, and gelling agents.
MetaPaste WS-200 solder paste has excellent re-flow, superior slump resistance, and high tolerance to humidity. Superior activity and wetting characteristics have been engineered into the product.

Physical Properties

Metal Load	90% (Standard)
Particle Size	Type 3 (25-45 microns) Type 4 (20-38 microns)
Viscosity	800-1100 kcps
Stencil Life	24 hours
Tack Time	Up to 24 hours

Other metal loads, particle sizes, and viscosities are available upon special request. It is available in 10cc (40 gram) syringes, 250 and 500 gram jars, and 500, 700, or 1,000 gram cartridges.

Standards Met

IPC J-STD-004 Standards
Type ORL0 classification

Resistivity to Water Extract: Pass
Silver Chromate Test: Pass
Copper Mirror Test: Pass
SIR: 7.72 x 10^8ohms

Application Directions

MetaPaste WS-200 water soluble solder paste has a shelf life of up to 6 months if kept refrigerated. Opened containers should be resealed when not in use.
Processing guidelines for paste preparation, printing, and reflow are found on page 2 of this bulletin.

Safety Precautions

MetaPaste WS-200 water soluble solder paste should be used in a well-ventilated area. If ventilation is inadequate, wear NIOSH approved respirator or equivalent. Wear suitable protective clothing, safety glasses, disposable vinyl gloves to avoid contact with skin and eyes. Refer to the Safety Data Sheet for additional information.
Do not dispose of any lead containing products in non-approved containers.

Metallic Resources, Inc.

Not Your Typical Solder Company

The Solder Dross Experts

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2368 E. Enterprise Parkway | Twinsburg, OH 44087

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Recommended Processing Guidelines

Preparation

- Allow adequate time (8 hours) for the unopened refrigerated paste to equalize with ambient temperature.
- Mix the product lightly and thoroughly for several minutes prior to application.

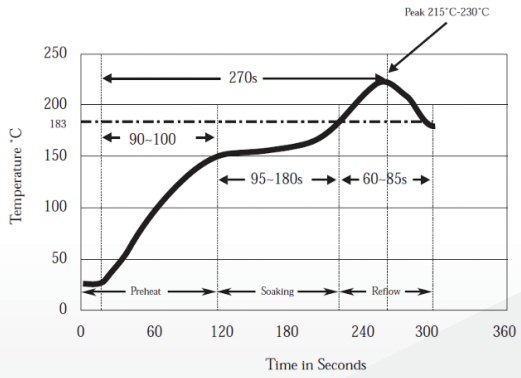
Printing

- Tack Time is up to twenty-four (24) hours between printing, placement and reflow under ambient conditions below 23°C/74°F and a relative humidity below 60%.
- The ideal temperature range for operation is 20°C/68°F – 23°C/74°F, with a relative humidity of 35-55%.
- The viscosity of this solder paste is 800 to 1100 kcps on the Brookfield viscometer.
- Apply enough paste to the stencil to create a smooth even roll during the print cycle.
- Bead diameter of 1/2" to 5/8" is sufficient.

Squeegee Speed (in/sec)	90 D Squeegee Pressure (lb/in)	Metal Blade Pressure (lb/in)
1	1.6 – 1.8	1.6 – 1.8
2	2.4 – 2.6	2.1 – 2.2
3	3.4 – 3.6	2.4 – 2.6
4	4.8 – 5.1	2.8 – 3.1

Recommended Reflow Parameters

- Preheat Zone: Ramp to 150°C in 120 seconds to dry the volatiles from the solder paste.
- Soak Zone: Soak 85 seconds @ 150-183°C to get uniform temperature equilibrium of PCB.
- Reflow Zone:
  - Ramp to a temperature of 215°C to 230°C for a period of 25 seconds for the Ramp/Soak/Spike profile.
  - Ramp to a temperature of 215°C to 230°C for a period of 25 seconds for the optimized Ramp/Spike profile.
- Cooling Zone: A cool down rate of 2°C, or more, per second is recommended for optimum results.
- Cleaning Lag Time: Cleaning efficiency is not affected by lag time between reflow soldering and cleaning.



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