

# MetaPaste™ WS-200

## 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 or Sn62 spherical solder powder, liquid flux, and gelling agents. The standard paste has a metal load of 90%, a particle size of 25-45 microns (-325 to +500 mesh), and a viscosity of 800-1,100 kcps. Other metal loads, particle sizes, and viscosities are also available. This series of paste can be used in printing applications from 50 mil pitch to 15 mil. It is available in 10cc (35 gram) syringes, 250 and 500 gram jars, and 500, 700 and 1,000 gram cartridges.

### Perfect for SMT Applications

MetaPaste WS-200 water soluble solder paste is specially designed for SMT, hybrid, and dispensing soldering applications. It provides excellent performance in both batch and continuous run operations. Reflow methods include infrared, convection, or conduction.

### A Superior Water Soluble Paste

MetaPaste WS-200 water soluble solder paste provides an 24 hour stencil life; extended stencil life provides greater productivity due to less clogging of stencil apertures and greater stencil open times. Improved open time allows the board to sit for longer periods prior to soldering. Extended tack time provides additional time for component placement and

open time prior to re-flow. Superior slump resistance minimizes instances of shorting. The high tack helps assure that components are held properly in place prior to soldering, an important aspect of high speed SMT production lines. Designed for improved resistance to humidity, MetaPaste WS-200 offers benefits not found in comparable products. It provides an extended post-process cleaning window and does not foam during the cleaning process, even when cleaned with high pressure wash systems.

### Application Directions

MetaPaste WS-200 water soluble solder paste has a refrigerated shelf life of 6 months. Opened jars should not be refrigerated again. Adequate time (8 hours) for the unopened frozen paste to equalize with ambient temperature must be allowed to prevent moisture condensation in the jar, which is detrimental to successful product use. If moisture does infiltrate the paste, the viscosity may increase, the paste may dry out prematurely, and/or components may "pop" off the board.

Mix the product lightly and thoroughly for several minutes prior to application. Do not store new and used paste in the same container. Opened containers should be resealed when not in use.

Apply sufficient paste to the stencil to create a smooth, even roll during the print cycle. A bead diameter of 1/2" to 5/8" is sufficient. Apply small amounts of fresh MetaPaste WS-200 to the stencil frequently, at controlled intervals, to maintain the paste

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chemistry and application properties. Cleaning of the stencil will vary depending upon the application.

MetaPaste WS-200 can be easily cleaned with tap water, although de-ionized water is preferred for the final rinse. A temperature of 100° to 150°F (38° to 65.5°C) is sufficient to remove any and all residues. An in-line or other spray cleaning system is recommended, but is not required.

## 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, and disposable vinyl gloves to avoid contact with skin and eyes. Refer to the Material Safety Data Sheet (MSDS) for additional information. Do not dispose of lead-containing products in non-approved containers.

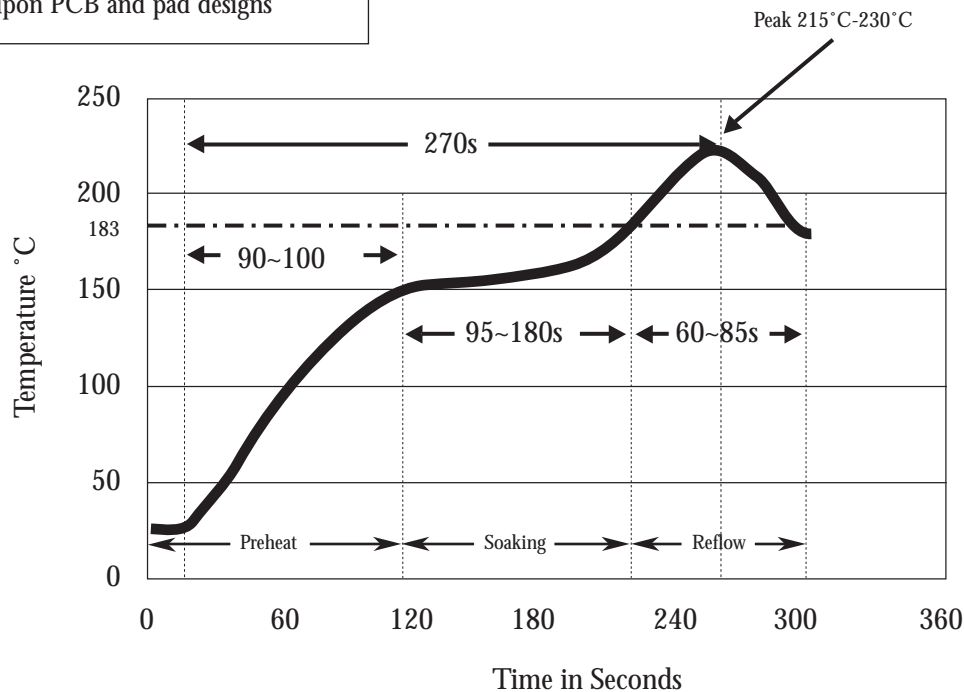
## Standards Met

Conforms to Bellcore and IPC standards.

Printer Set Up
The following are suggested starting parameters for screen printing. Adjustments will vary, depending upon ambient environment, application, and specific equipment.
Snap Off Distance: On Contact (0.00")
Squeegee Pressure: 1.5-1.7 lbs./inch of blade
PCB Separation Distance: .030"-.050"
Squeegee Stroke Speed: .5"- 6.0"/sec.*
PCB Separation Speed: Medium
*Dependent upon PCB and pad designs

### Suggested Ramp Soak Reflow Parameters: (for SN62 and SN63 Alloys Only)

	TEMP (°C)	TIME (sec)	RATE (°C/sec)
<b>Ramp</b>	Amb. – 100	90 – 100	1.0
<b>Soak</b>	150 – 183	95 – 108	0.7
<b>Reflow</b>	183 – 220	60 – 85	0.8
<b>Peak</b>	215 – 230		



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Recommendations made by this company and its representatives are based upon test data, experiments, and experience believed to be reliable. No guarantee of accuracy is made, however. All products are sold upon the condition that the buyer will make his own tests and assume the responsibility for the suitability of the product under his application and service conditions. Statements made herein will vary according to the nature of the surfaces to which the product is applied, application technique, and service condition. We in no event assume liability beyond the purchase price of our products involved and make as a condition of sale that we will refund the purchase price or replace materials proven to be defective and reported in a timely fashion, but no later than six (6) months after shipment. No representative of the manufacturer and/or seller has the authority to alter or extend these conditions.