

MetaPaste™ NC-300

Product Bulletin

An Excellent No-Clean Paste

Metallic Resources' MetaPaste NC-300 is a general purpose, mildly activated, resin-based no-clean solder paste. It is manufactured as a 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 750-950 kcps. Other metal loads, particle sizes, and viscosities are available upon special request. It is designed for fine pitch 15 mil printing as well as standard pitch in the 20-50 mil range. It is available in 10cc (35 gram) syringes, 250 and 500 gram jars, and 500, 700, or 1,000 gram cartridges.

Perfect for SMT Applications

MetaPaste NC-300 no-clean solder paste is specially designed for SMT, hybrid, and dispensing soldering applications. Reflow in air using infrared, conduction or convection ovens give outstanding results although a nitrogen atmosphere is also suitable.

A Superior No Clean Paste

MetaPaste NC-300 no-clean solder paste provides 16 hours + stencil life, up to 24 hour tack time, excellent re-flow, superior slump resistance, and high tolerance to humidity. Superior activity and wetting characteristics have been engineered into the product. It creates an extremely low level of clear post-process residue, which may be left without cleaning on the PWB board without fear of degradation in RF designs up to 10 gigahertz,

depending upon circuitry design. (Above 2 gigahertz, cleaning may be necessary.) No special atmospheres are necessary for application. The 45 micron particle size is ideally suited for printing to a 15 mil pitch. The SIR (Surface Insulation Resistance) on a 7-day test is 7.72 E+08. It passes the halide test on silver chromate paper and copper mirror.

Application Directions

MetaPaste NC-300 no-clean solder paste has a shelf life of 6 months if kept refrigerated. 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 use of product. 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 NC-300 to the stencil frequently, at controlled intervals, to maintain the paste chemistry and application properties. Cleaning of the stencil will vary depending upon the application.

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If desired, the paste may be cleaned with a standard degreasing solution, saponified water, or an alcohol/water combination. An in-line or other spray cleaning system is recommended, but is not required.

Safety Precautions

MetaPaste NC-300 no-clean 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 any lead-containing products in non-approved containers.

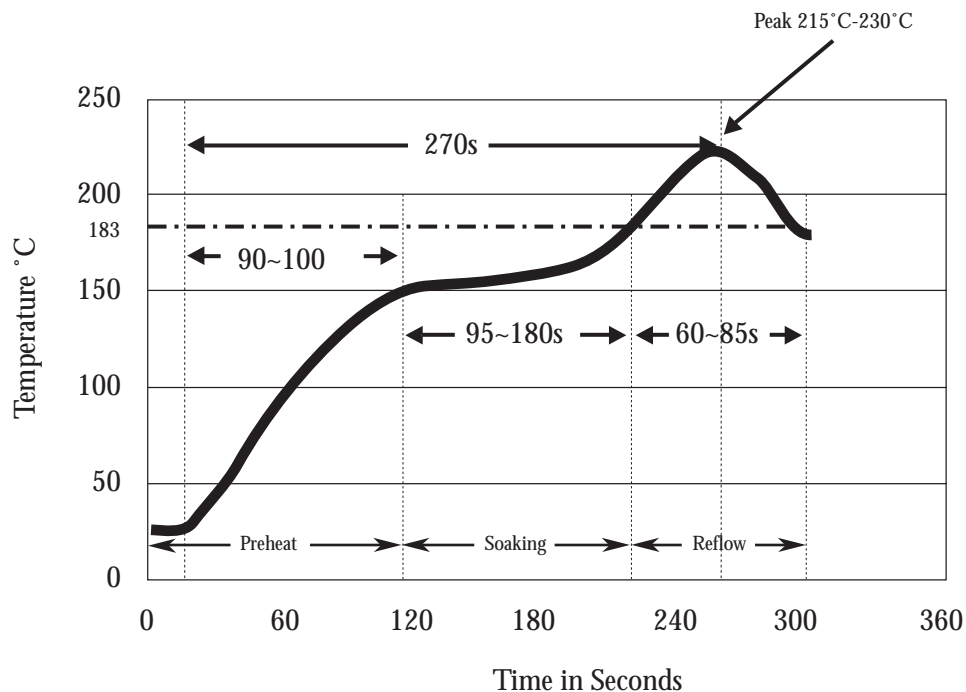
Standards Met

Conforms to Telcordia GR-78-Core, 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 1.6 - 5.1 lbs./inch of blade
PCB Separation Distance: .030"-.050"	Squeegee Stroke Speed: .5" - 4"/sec.*
PCB Separation Speed: Medium	*Dependent upon PCB and Pad Designs



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

NOTE: Soak is optimized to remove the temperature difference between components and PCB. Proceed to spike once the PCB has reached thermal stability.

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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.