

EM808 Solder Paste

Lead-Free, Water Soluble

Product Description

Kester EM808 Solder Paste is a lead-free, organic acid, water soluble solder paste that provides users with the highest level of consistency and performance. Batch after batch, EM808 provides hours of stable stencil life, tack time and repeatable brick definition. EM808 robust printing characteristics result in consistent solder paste volume regardless of idle time, stencil life and print speed. The activator package in the EM808 is very aggressive and provides superior wetting to OSP coated and Immersion Silver boards.

Performance Characteristics:

- Outstanding batch-to-batch consistency
- Lead-free
- Water soluble
- Excellent anti-slumping characteristics minimizing bridging defects
- Capable of 60 minute idle times in printing
- Print speed up to 150 mm/sec (6 in/sec)
- Excellent solderability to a wide variety of metalizations including Palladium, leaving bright, shiny joints
- Residues easily removed with hot DI water, even up to 48 hours after soldering
- Minimal foam in wash systems
- 8+ hour stencil life
- Compatible with enclosed print head systems
- Classified as ORH1 per J-STD-004, J-STD-004A & J-STD-004B

Standard Applications:

- Stencil Printing: 88% Metal
- Enclosed Head Printing: 88% Metal

RoHS Compliance

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2015/863 for the stated banned substances.

Physical Properties

(Data given for Sn96.5Ag3.0Cu0.5, 88% metal, -325+500 mesh)

Viscosity (typical): 1800 poise
Malcom Viscometer @ 10 rpm and 25 °C

Initial Tackiness (typical): 37 grams
Tested to J-STD-005, IPC-TM-650, Method 2.4.44

Slump Test: Pass
Tested to J-STD-005, IPC-TM-650, Method 2.4.35

Solder Ball Test: Preferred
Tested to J-STD-005, IPC-TM-650, Method 2.4.43

Wetting Test: Pass
Tested to J-STD-005, IPC-TM-650, Method 2.4.45

Reliability Properties

Copper Mirror Corrosion: High
Tested to J-STD-004, IPC-TM-650, Method 2.3.32

Corrosion Test: Low
Tested to J-STD-004, IPC-TM-650, Method 2.6.15

Fluorides by Spot Test: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.3.35.1

Surface Insulation Resistance (SIR), (typical): Pass
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	Blank	EM808
Day 1	$1.9 \times 10^{10} \Omega$	$1.4 \times 10^8 \Omega$
Day 4	$1.1 \times 10^{10} \Omega$	$2.0 \times 10^8 \Omega$
Day 7	$8.3 \times 10^{10} \Omega$	$8.3 \times 10^9 \Omega$

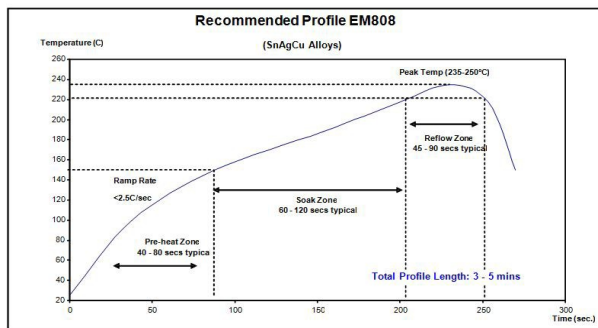
Availability

Kester EM808 is available in the Sn96.5Ag3.0Cu0.5 alloy with Type 3 powder. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information see Kester's Solder Paste Packaging Chart for available sizes. The appropriate combination depends on process variables and the specific application.

Printing Parameters

Squeegee Blade	80 to 90 durometer polyurethane or stainless steel
Squeegee Speed	Capable to a maximum speed of 150 mm/sec (6 in/sec)
Stencil Material	Stainless Steel, Molybdenum, Nickel Plated, Brass
Temperature/Humidity	Optimal ranges are 21 to 25 °C (70 to 77 °F) and 35 to 65% RH

Recommended Reflow Profile



The recommended reflow profile for EM808 made with SAC alloys is shown here. This profile is simply a guideline. Since EM808 is a highly active solder paste, it can solder effectively over a wide range of profiles. Your optimal profile may be different from the one shown based on you oven, board and mix of defects. Please contact Kester Technical Support if you need additional profiling advice.

Cleaning

EM808 residues are best removed using automated cleaning equipment (in-line or batch) within 48 hours of soldering. De-ionized water is recommended for the final rinse. Water temperatures should be 49 to 60 °C (120 to 140 °F). Kester's 5768 Cleaner can also be used in a 1 to 2% ratio for aqueous cleaning systems.

Storage, Handling and Shelf Life

Refrigeration is the recommended optimum storage condition for solder paste to maintain consistent viscosity, reflow characteristics, and overall performance. EM808 should be stabilized at room temperature prior to printing. EM808 should be kept at standard refrigeration temperatures, 0 to 10 °C (32 to 50 °F). Please contact Kester Technical Support if you require additional advice with regard to storage and handling of this material. Shelf life is 6 months from date of manufacture and held at 0 to 10 °C (32 to 50 °F).

Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet and warning label before using this product. Safety Data Sheets are available at <https://www.kester.com/downloads/sds>.

Contact Information

To confirm this document is the most recent version, please contact Assembly@MacDermidAlpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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