EM808 Solder Paste
Lead-Free Water-Soluble

Product Description

Kester EM808 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 ORM0 per J-STD-004

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

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

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

Corrosion Test: Low
Tested to J-STD-004, IPC-TM-650, Method 2.8.15

Silver Chromate: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

Chloride and Bromides: None Detected
Tested to J-STD-004, IPC-TM-650, Method 2.3.35

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

Surface Insulation Resistivity (SIR), (typical):
Blank EM808
| Day | 1.9*10^6 Ω | 1.4*10^6 Ω |
| Day 4 | 1.1*10^6 Ω | 2.0*10^6 Ω |
| Day 7 | 8.3*10^5 Ω | 8.3*10^5 Ω |

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Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet (SDS) and warning label before using this product.

Storage 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, 0-10°C (32-50°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 0-10°C (32-50°F).

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 your 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 49-60°C (120-140°F). Kester’s 5768 Cleaner can also be used in a 1-2% ratio for aqueous cleaning systems.

Printing Parameters

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