R231 Solder Paste

Mildly Activated Rosin Solder Paste

Product Description

Kester R231 Solder Paste is a Mildly Activated Rosin (RMA) solder paste formula specifically designed to exhibit long stencil/print life. R231 maintains its activity and printing characteristics for up to 8 hours (temperature and humidity dependent).

Performance Characteristics:

- High print speeds to 200 mm/sec (8 in/sec)
- Compatible with 0201 technology
- Excellent printing characteristics to 0.4mm (16-mil) pitch with Type 3 powder
- Excellent wetting on a variety of substrates, including OSPs
- Capable of 90 minute break times in printing
- Stencil life: 8+ hours (process dependent)
- Scrap is reduced due to less paste dry out
- Stable tack over 8+ hours
- Classified as ROL0 per J-STD-004
- Compatible with DEK ProFlow™ and MPM RheoPump™ enclosed print head systems

Standard Applications:

Stencil Printing – 90% Metal

Enclosed Head Printing – 90% Metal

Physical Properties

(Data given for Sn63Pb37 and Sn62Pb36Ag02, 90% metal, -325+500 mesh)

Viscosity (typical): 1600 poise

Malcom Viscometer @ 10 rpm and 25 °C

Initial Tackiness (typical): 42 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: 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 2.6.15

Silver Chromate: Pass
Tested to J-STD-004, IPC-TM-650, Method 2.3.33

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

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

	Blank	R231
Day 1	1.5×10^{10} Ω	5.3×10^{9} Ω
Day 4	6.0×10^{9} Ω	2.6×10^{9} Ω
Day 7	5.5×10^{9} Ω	2.9×10^{9} Ω

Availability

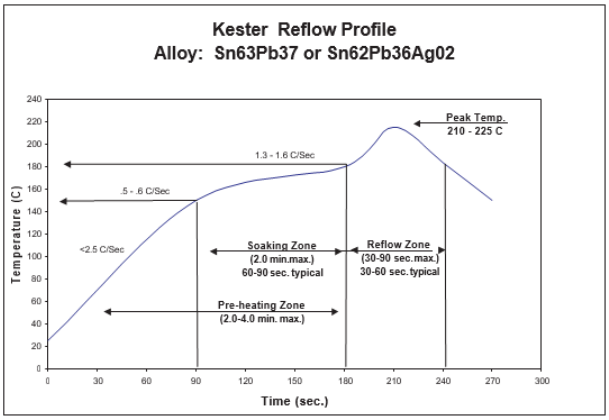
Kester R231 is available in the Sn63Pb37 and Sn62Pb36Ag02 alloys with Type 3 powder. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information see Kester's Solder Paste Packaging Chart 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 200 mm/sec (8 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 R231 made with Sn63Pb37 and Sn62Pb36Ag02 alloys is shown here. This profile is simply a guideline. Since R231 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

R231 is an RMA formula. The residues do not need to be removed for typical applications. Although R231 is designed for RMA applications, its residues can be easily removed using automated cleaning equipment (in-line or batch) with a variety of readily available cleaning agents. Call Kester Technical Support for details.

Recycling Services

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or link here.

Storage, Handling and Shelf Life

Refrigeration is the recommended optimum storage condition for solder paste to maintain consistent viscosity, reflow characteristics and overall performance. R231 should be stabilized at room temperature prior to printing. R231 should be kept at standard refrigeration conditions, 0 to 10 °C (32 to 50 °F). Please contact Kester if you require additional advice with regard storage and handling of this material. Shelf life is 4 months from date of manufacture when handled properly 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 this link.

Contact Information

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

North America	Europe	Asia Pacific
109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.253.7837	Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400	8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100

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