

# R562 Solder Paste

Water Soluble

---

## Product Description

Kester R562 Solder Paste is an organic acid, water soluble solder paste specifically designed for resistance to environmental extremes. Water soluble pastes tend to dry out in low relative humidity and slump at high relative humidity. R562 will maintain its print characteristics, tack and activity even after exposure to environmental extremes.

### Performance Characteristics:

- Reduces BGA voiding to <3%
- Bright, shiny joints
- 12 hour stencil life
- Print speeds up to 6 in/sec
- Compatible with enclosed print head systems
- Consistent printing over a range of temperatures and humidity
- Capable of multiple reflow profiles before a cleaning operation is required
- Excellent solderability to a wide variety of metallizations, including Palladium
- Residues easily removed with hot DI water within 8 hours as best practice after processing
- Classified as ORH0 per J-STD-004
- Capable of off-pad printing with no solderballs after reflow dry out

### Standard Applications:

Stencil Printing: 90% Metal

Enclosed Head Printing: 90% Metal

## RoHS Compliance

Kester does not determine any applicable Restriction of Hazardous Substances (RoHS) exemptions for our lead containing products at the user level.

## Physical Properties

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

**Viscosity (typical):** 1750 poise

Malcom Viscometer @ 10 rpm and 25 °C

**Initial Tackiness (typical):** 48 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 2.4.452.4.45

## 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

**Silver Chromate:** Pass

Tested to J-STD-004, IPC-TM-650, Method 2.3.33

**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), IPC (typical):** Pass

Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

|       | Blank                       | R562                     |
|-------|-----------------------------|--------------------------|
| Day 1 | $3.2 \times 10^{10} \Omega$ | $3.4 \times 10^8 \Omega$ |
| Day 4 | $1.2 \times 10^{10} \Omega$ | $1.9 \times 10^9 \Omega$ |
| Day 7 | $1.3 \times 10^{10} \Omega$ | $4.1 \times 10^9 \Omega$ |

## Availability

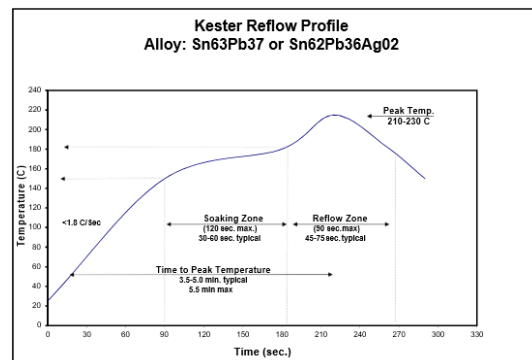
R562 is commonly available in the Sn63Pb37 and Sn62Pb36Ag02 alloys. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information see Kester's Solder Paste Packaging Chart for available sizes. The appropriate combination depends on process variables and the specific application.

## Printing Parameters

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

## Recommended Reflow Profile

The recommended reflow profile for R562 made with either the Sn63Pb37 or Sn62Pb36Ag02 is shown here. This profile is simply a guideline. Since R562 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

R562 residues are best removed using automated cleaning equipment (in-line or batch) within 8 hours of solder reflow as a best process practice. Deionized water is recommended for the final rinse. Water temperatures should be 49 to 60 °C (120 to 140 °F). If you have any questions, please contact Kester Technical Support.

## 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. R562 should be stabilized at room temperature prior to printing. R562 should be kept at standard refrigeration conditions, 0 to 10 °C (32 to 50 °F). Please contact Kester Technical Support if you require additional advice with regard storage and handling of this material. Shelf life is 6 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](mailto:Assembly@MacDermidAlpha.com)

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

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

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "R" and "TM" are registered trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.