



R562 Solder Paste

Water-Soluble

Product Description

Kester R562 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 solder-ability 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

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 @ 10rpm 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

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

	Blank	R562
Day 1	3.2*10 ¹⁰ Ω	3.4*10 ⁸ Ω
Day 4	1.2*10 ¹⁰ Ω	1.9*10 ⁹ Ω
Day 7	1.3*10 ¹⁰ Ω	4.1*10 ⁹ Ω

Standard Applications:

Stencil Printing: 90% Metal

Enclosed Head Printing: 90% Metal

Availability

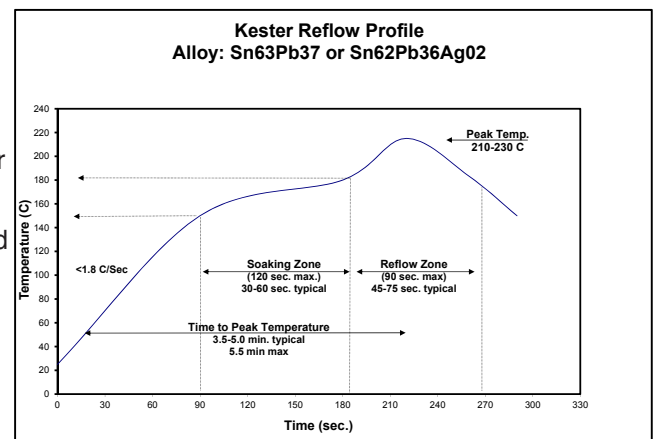
R562 is commonly available in the Sn63Pb37 and Sn62Pb36Ag02 alloys. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information see Kester's Solder Paste Packaging Chart for available sizes.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

Printing Parameters

Squeegee Blade	Stainless Steel or 80-90 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 or Brass
Temperature/Humidity	Optimal ranges are 21-25°C (70-77°F) and 35-65% 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. De-ionized water is recommended for the final rinse. Water temperatures should be 49-60°C (120-140°F). If you have any questions, please contact Kester Technical Support.

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, 0-10°C (32-50°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 0-10°C (32-50°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.