R272HPS-
No-Clean Solder Paste

Product Description

Kester R272HPS- is a no-clean solderpaste that is air or nitrogen processable, with good print definition and increased throughput. Its flux system is specially formulated to ensure better slump resistance during printing and preheating. Kester R272HPS- offers excellent wetting characteristics and good fillet formation in normal air reflow. The residue is non-tacky, optically clear and inert, and is classified as Type ROL0 under IPC ANSI/J-STD-004 Joint Industry Standard.

- Stencil Life: 8 hours (process dependent)
- Excellent printing characteristics to 0.4mm (16 mil) pitch
- Leaves bright/shiny solder joints after reflow
- Scrap is reduced due to less paste dry out
- Anti-slumping to eliminate bridging
- Excellent cosmetic appearance with its clear, colorless residue
- Can reflow in air or nitrogen
- Classified as ROL0 per J-STD-004
- Compliant to Bellcore GR-78-CORE

Physical Properties

(Data given for Sn62/Pb36/Ag02, 90.25% metal, -325+500 mesh)

Viscosity (typical) : 1900 poise
Malcom Viscometer PCU-203 @ 10 rpm, 25°C, measurement after 9 minutes

Initial Tackiness (typical) : 27 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

S.I.R., IPC (typical): Pass
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

	Blank	R272HPS-
Day 1(24 h)	$1.2 \times 10^{11}\ \Omega$	$8.5 \times 10^{10}\ \Omega$
Day 4(96 h)	$1.1 \times 10^{11}\ \Omega$	$9.6 \times 10^{9}\ \Omega$
Day 7(168 h)	$7.2 \times 10^{10}\ \Omega$	$9.2 \times 10^{9}\ \Omega$

S.I.R., Bellcore (typical): Pass
Tested to Bellcore GR-78-CORE

	Blank	R272HPS-
Day 1(24 h)	$9.4 \times 10^{11}\ \Omega$	$6.3 \times 10^{10}\ \Omega$
Day 4(96 h)	$3.5 \times 10^{11}\ \Omega$	$8.9 \times 10^{10}\ \Omega$

Electromigration, Bellcore (typical): Pass
Tested to Bellcore GR-78-CORE

	Blank	R272HPS-
Initial (0h)	$7.8 \times 10^{11}\ \Omega$	$5.8 \times 10^{10}\ \Omega$
Day 21(500h)	$8.2 \times 10^{11}\ \Omega$	$2.7 \times 10^{10}\ \Omega$

Standard Applications

90.25% Metal -- Stencil Printing

Application Notes

Availability:

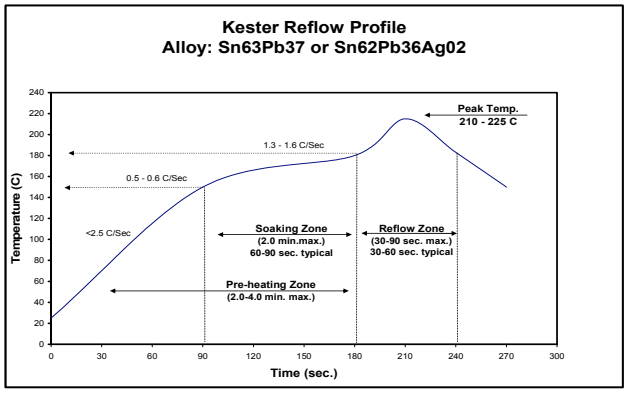
Kester R272HPS- is commonly available in the Sn63Pb37, Sn62Pb36Ag02 and Ag0.4Sn62.8Pb36.8 alloys. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information, see Kester's Solder Paste Chart 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 70 mm/sec 25 to 35 mm/sec (1-1.4 in/sec) recommended
Stencil Material	Stainless Steel, Molybdenum, Nickel Plated, Brass
Temperature / Humidity	Optimal ranges are 21-25°C (70-77°F) and 35-65% RH

Recommended Reflow Profile:

The recommended convection reflow profile for R272HPS- formula made with either the Sn63Pb37 or Sn62Pb36Ag02 is shown here. This profile is simply a guideline. Since R272HPS- is a highly active, no-clean 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 if you need additional profiling advice.



Cleaning:

R272HPS- is a no-clean formula. The residues do not need to be removed for typical applications. Although R272HPS- is designed for no-clean 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.

Storage, Handling and Shelf Life:

Refrigeration is the recommended optimum storage condition for solderpaste to maintain consistent viscosity, reflow characteristics and overall performance. R272HPS- should be stabilized at room temperature prior to printing. R272HPS- should be kept at standard refrigeration conditions, 0-10°C (32-50°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 0-10°C (32-50°F).

Health & Safety:

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

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