



kester®

Technical Data Sheet

EP256HA Solder Paste

No-Clean



Product Description

EP256HA is a no-clean, air or nitrogen reflowable solder paste specifically designed to provide maximum print characteristics and solderability on lead-free parts using leaded solder paste. EP256HA has been designed for applications that require the ultimate activity with respect to difficult to solder to components and board surface metalizations. EP256HA is also capable of stencil printing after downtimes of up to 90 minutes with an effective first print down to 20 mils. EP256HA is a solder paste formula that maintains its activity and printing characteristics for up to 8 hours without any shear thinning.

Performance Characteristics:

- Excellent solderability on difficult to solder to components, i.e., PdAg
- High activity on all substrates, including OSPs
- Capable of 90-minute break times in printing
- Excellent printing characteristics to 0.4mm (16 mil) pitch with Type 3 powder
- High print speeds to 150 mm/sec (6 in/sec)
- Stable tack over 8+ hours
- Stencil life: 8+ hours (process dependent)
- Scrap is reduced due to less paste dry out
- Classified as ROL0 per J-STD-004B
- Compliant to Bellcore GR-78

Standard Applications:

For stencil 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): 1600 poise
Malcom Viscometer @ 10rpm and 25°C

Initial Tackiness (typical): 37 grams
Tested to Kester Method 1W-QC-3-04

Slump Test: Pass
Tested to J-STD-005, IPC-TM-650, Method 2.4.35

Solder Ball Test: Pass
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-004B, IPC-TM-650, Method 2.3.3

Corrosion Test: Low
Tested to J-STD-004B, IPC-TM-650, Method 2.6.15

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

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

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

Surface Insulation Resistance (SIR): Pass
Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7

Availability

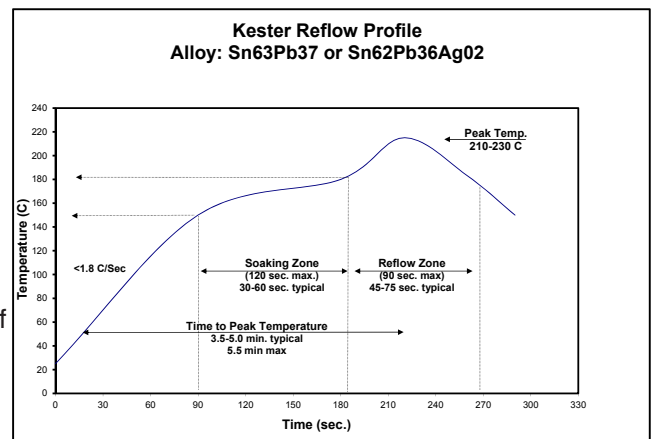
EP256HA is commonly available in the Sn63Pb37 and Sn62Pb36Ag02 alloys. Type 3 powder mesh is recommended, but different powder particle size distributions are available for standard and fine pitch applications. For specific packaging information, see Kester's Solder Paste Chart for available sizes. The appropriate combination depends on process variables and the specific application.

Printing Parameters

Squeegee Blade	Stainless Steel or 80-90 Durometer Polyurethane
Squeegee Speed	Capable to a maximum speed of 200 mm/sec (8 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 EP256HA made with either the Sn63Pb37 or Sn62Pb36Ag02 is shown here. This profile is simply a guideline. Since EP256HA is a highly active solder paste, it can solder effectively over a wide range of profiles. EP256HA is capable of reflowing at the 235°C peak temperatures required for fully collapsing lead-free SAC BGA's for maximum reliability, and remains easy to clean after these high temperature profiles. Your optimal profile may be different from the one shown based on your oven, board and mix of defects. Contact Kester Technical Support if you need additional profiling advice.



Cleaning

EP256HA is a no-clean formula. The residues don't need to be removed for typical applications. Although EP256HA 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 solder paste to maintain consistent viscosity, reflow characteristics and overall performance. EP256HA should be stabilized at room temperature prior to printing. EP256HA should be kept at standard refrigeration conditions, 0-10°C (32-50°F). Contact Kester Technical Support if you require additional advice with regard storage and handling of this material. Shelf life is 6 months from the date of manufacture when handled properly when 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.