

# Easy Profile<sup>®</sup> 256 No-Clean Solderpaste

## Product Description

Easy Profile™ 256 is a no-clean, air or nitrogen reflowable, solder paste specifically designed for maximum robustness in reflow profiling and stencil printing. 256 has the widest possible reflow processing window. 256 is also capable of stencil printing downtimes of up to 90 minutes with an effective first print down to 20 mils. 256 is a solderpaste formula that maintains its activity and printing characteristics for up to 8 hours without any shear thinning.

- Stable wetting behavior over a wide range of profiles
- Capable of 90 minute break times in printing
- High print speeds to 8+ in/sec
- Compatible with enclosed print head systems
- Excellent printing characteristics to 15 mil pitch with Type 3 powder
- High activity on all substrates, including OSPs
- Capable of off-pad printing with no solderballs after reflow
- Stencil life: 8+ hours (process dependent)
- Stable tack over 8+ hours
- J-STD-004 Flux Classification ROL0
- Compliant to Bellcore GR-78
- Scrap is reduced due to less paste dry out

## Physical Properties

Data given for Sn63/Pb37 90% metal, -325+500 mesh

- **Viscosity:**  
Malcom: 1400 poise @ 10 RPM (typical)  
Malcom Viscometer at 25°C
- **Tack vs. time (grams):**  
Initial=40 2hr=41 4hr=44 8hr=42 24hr=38  
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

## Reliability Properties

- **Copper Mirror Corrosion: L**  
Tested to J-STD-004, IPC-TM-650, Method 2.3.3
- **pH 5% Solution (flux extract): 5.7**  
(typical)

## Qualitative Halide Tests:

- **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

## Quantitative Halide Tests:

- **Chloride and Bromides: None Detected**  
Tested to J-STD-004, IPC-TM-650, Method 2.3.35
- **Fluorides by Spot Test: None Detected**  
Tested to J-STD-004, IPC-TM-650, Method 2.3.35.2

- **Typical SIR, IPC: Pass**  
Tested to J-STD-004, IPC-TM-650, Method 2.6.3.3

Blank at 24 hours: 1.0E+10  
Blank at 96 hours: 1.3E+10  
Blank at 168 hours: 1.3E+10  
Uncleaned at 24 hours: 9.8E+08  
Uncleaned at 96 hours: 1.6E+09  
Uncleaned at 168 hours: 1.1E+09

- **Typical SIR, Bellcore: Pass**  
Tested to GR-78, Section 13.1.3

Blank at 24 hours: 1.3E+11  
Blank at 96 hours: 2.2E+11  
Uncleaned at 24 hours: 3.0E+11  
Uncleaned at 96 hours: 3.1E+11

## Standard Applications

90-91% Metal -- Stencil Printing  
90.5-91% Metal – Enclosed Head Printing

# Application Notes

## Availability:

Easy Profile™ 256 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.

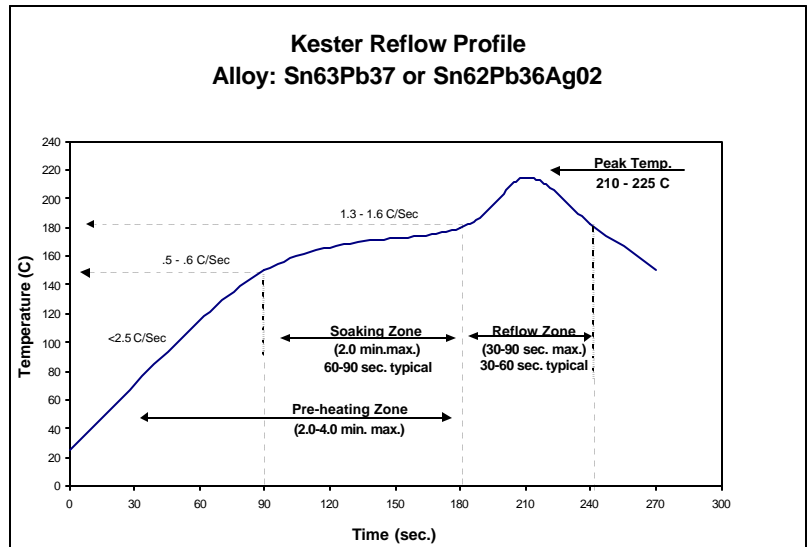
## Printing Parameters:

- Squeegee Blade 80 to 90 durometer polyurethane or stainless steel
- Squeegee Speed 25 to 50 mm/sec typical; speeds up to 200 mm/sec possible
- Stencil Material Stainless Steel, Molybdenum, Nickel Plated, Brass
- Temperature/Humidity Optimal ranges are 70-77°F and 35-65% R.H.

## Recommended Reflow Profile:

Convection and Infra-Red reflow methods are most commonly used to reflow the Easy Profile™ 256. The recommended IR or Convection reflow profile for the 256 formula made with either the Sn63Pb37 or Sn62Pb36Ag02 is shown here.

The profile shown is simply a starting point recommendation. A variety of profiles would work effectively with Easy Profile 256.



## Cleaning:

- Easy Profile™ 256 is a no-clean formula. The residues don't need to be removed for typical applications.
- Although Easy Profile™ 256 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.

## Available packaging:

- Cartridges -- 250 gram, 600 gram and 1400 gram cartridges available.
- Jars -- 250 gram and 500 gram jars available.
- Cassettes – DEK ProFlow cassettes available.

## Storage, Handling, and Shelf Life:

- Storage & Handling -- should be kept at standard refrigeration temperatures and humidity conditions, 0-10°C (32-50°F) and 35-55%RH respectively.
- Shelf life -- 6 months from date of manufacture when held at 0-10°C (32-50°F).
- Shelf life -- 3 months from date of manufacture at 11-25°C (51-77°F).

## Health & Safety:

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

## Attention Specification Writers:

- The technical information contained herein is consistent with the properties of this material but should not be used in the preparation of specifications as is intended for reference only.
- For assistance in preparing specifications, please contact your local Kester Solder office for details.