

# NXG33

## Lead-Free No-Clean Solder Paste

### Preliminary Data Sheet

#### Product Description

Kester NXG33 is a lead-free, no-clean and halogen-free solder paste with state-of-the-art capabilities to support modern electronics assembly challenges. Kester NXG33 is fully capable of printing and reflowing 01005 components, even in air reflow, with minimal graping behavior. NXG33 can handle a wide variety of printer variables, including print speed, long idle times and a wide range of temperature and humidity. Post-soldering, the NXG33 offers minimized defects, including head-in-pillow and QFN/BGA voiding. This paste meets the IPC definition for halogen-free and is classified as type ROL0 per IPC J-STD-004. Kester NXG33 is available in Type 4 powder with the SAC305 alloy.

- Halogen-free per IPC definition
- Capable of 01005 print and reflow, even in air reflow environment
- Can print down to 8 mil x 8 mil apertures
- Designed specifically for fine feature printing with T4 powder
- Low QFN/BGA voiding
- Tremendous solderability with halogen-free chemistry
- Capable of print speeds up to 6 in/sec (150 mm/sec)
- Low slump behavior minimizes defects
- ICT probeable residues
- Reflowable in air or nitrogen

#### Standard Applications

For stencil printing:

88.5% metals for -400+500 mesh

#### Physical Properties

(Data given for SnAgCu, 88.5% metal, -400+500 mesh) Data representative for most SnAgCu compositions

**Viscosity (typical):** 1900 poise

Malcom viscometer @ 10rpm and 25°C

**Initial Tackiness (typical):** 44 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-004B, IPC-TM-650, Method 2.3.32

**Corrosion Test:** Low

Tested to J-STD-004B, IPC-TM-650, Method 2.6.15

**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

**IPC SIR:** Pass

Tested to J-STD-004B, IPC-TM-650, Method 2.6.3.7

#### RoHS Compliance

This product meets the requirements of the RoHS (Restriction of Hazardous Substances) Directive, 2002/95/EC Article 4 for the stated banned substances.

## Application Notes

### Availability:

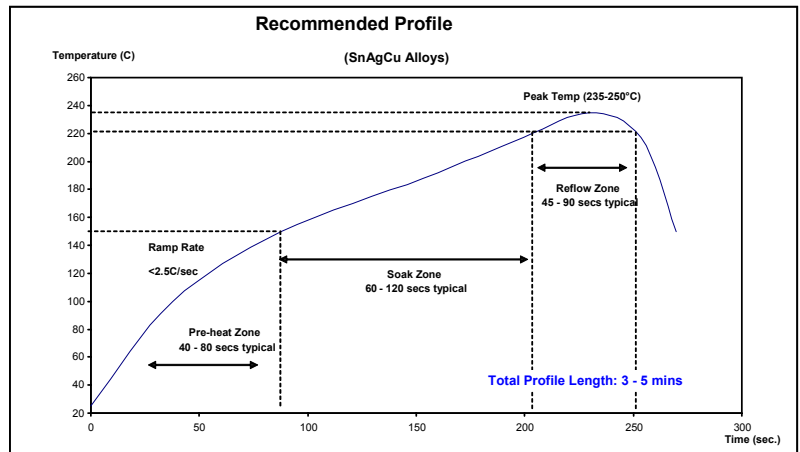
Kester NXG33 is available in Sn96.5Ag3Cu0.5 alloy with Type 4 powder mesh size for standard and fine pitch applications. Please contact Kester for other alloy options. For specific packaging information, see Kester's Paste Packaging Chart for available sizes. The appropriate combination depends on process 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 150 mm/sec (6 in/sec)
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 reflow profile for NXG33 made with SnAgCu alloy is shown here. This profile is simply a guideline. Since NXG33 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 if you need additional profiling advice.



### Cleaning:

NXG33 is a no-clean formula. The residues do not need to be removed for typical applications. Although NXG33 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.

### Storage, Handling, and Shelf Life:

Refrigeration is the recommended optimum storage condition for solder paste to maintain consistent viscosity, reflow characteristics, and overall performance. NXG33 should be stabilized at room temperature prior to printing. NXG33 should be kept at standard refrigeration temperatures, 0-10°C (32-50°F). Please contact Kester if you require additional advice with regard to storage and handling of this material. Shelf life is 6 months from date of manufacture and held at 0-10°C (32-50°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.

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