

G-King® Lead Free and Halogen Free Solder Paste

GK-SP-SBA3503-4

DESCRIPTION

G-King® Lead-Free Solder Paste is a Halogen Free, high printability and wide reflow process window. It can adapt to a variety of reflow profiles suitable to customer's application. The G-King Solder Paste has good level of activity resulting to bright and shiny solder joints. It is best used for QFP, SOIC, and TSSOP, QFP, BGA/ uBGA's and other hard to solve electronic parts. The Low Reside, No Clean formulation does not need cleaning, there is no Halogen traces on the residue which is in line with environmental protection and does not contain banned substance standards. This product is suitable for high-speed printing and placement production lines.

FEATURES

- Halogen-Free
- Low Voiding
- Consistent Printing
- Works in different PCB finishes
- NO-CLEAN cleaning application
- Long floor life (up to 24hours)
- ROHS and REACH Compliant
- Air and Nitrogen reflow applications
- Fine Powder Particle application (T4, T5 and T6)

PROPERTIES

Viscosity: 1350 Poise @ Malcom Viscometer 10rpm, 25sec testing

Tackiness: Passed, IPC J-STD-005, TM650 2.4.44

Slump Test: Passed, IPC J-STD-005, TM650 2.4.35

Solder Ball Test: Passed, IPC J-STD-005, TM650 2.4.43

IPC Flux classification

IPC J-STD-004B: ROL1

IPC J-STD-004C: ROL0

Density: 4.5gr/cm³

Copper Mirror Test: Passed as per J-STD-004C, IPC-TM-650, Method 2.3.32

Corrosion Test: No Corrosion (L) as per J-STD-004 IPC-TM-650, Method 2.6.15B

Halogen: 0 ppm as per J-STD-004C, IPC-TM-650, Method 2.3.41 (Ref. EN 14582)

Silver Chromate: Passed

Fluoride Spot: No traces

Reliability Tests:

Surface Insulation Resistance: Passed
 Electrochemical Migration (ECM): Pass
 As per J-STD-004C, IPC-TM-650, Method 2.6.14.1
 Test Conditions: 85°C, 85% RH, 25 days, 100V

Particle Size: Type 3, Type 4, Type 5
 Acid Value: 165 MgKOH/gram
 Viscosity Properties: 1,350 Poise
 Spread Test: Passed
 Solder Ball Test: Passed
 Tackiness: 33.4 gf

HANDLING AND STORAGE

Aside from product application, handling and storage is the critical part of the solder paste's performance in production. Although this product is designed to withstand longer leadtimes due to shipping delays, it is best to refrigerate the package upon receiving in warehouse docks.

Key storage parameters:

- Store between 4°C to 10°C refrigerator condition.
- Shelf life: 12months (refrigerated); 1month (unrefrigerated)
- Use First-IN-First-OUT system
- Stencil life: up to 24hours
- Upon taking out of the fridge, store in room condition 22°C to 26°C/ RH: 45% to 55%
- Do not mix used and unused paste together.
- For used solder paste, it is best to charge with unused paste

PRINTING PARAMETERS

Print Definition	Consistent, aperture ratio - up to 90%
Stencil Life	8-12hours
Printer Condition	20-25°C at 45%-65% RH
Recommended Squeegee Blade	Stainless Steel, Polyurethane
Print Speed	25mm/sec - 200mm/sec
Stencil Material	Stainless Steel, Molybdenum, Nickel Plated or Brass

COMPATIBILITY

Alloy: SAC305, SAC405, SN100C, Sn99.3/Cu0.7, Sn63/Pb37, Sn62Pb36/Ag2
 Particle Sizes: Type 3, 45u powder/ Type 4, 38u powder/ Type 5, 20u powder
 Packaging: Jar 500grams, Cartridge 1,000grams, Syringe dispensing

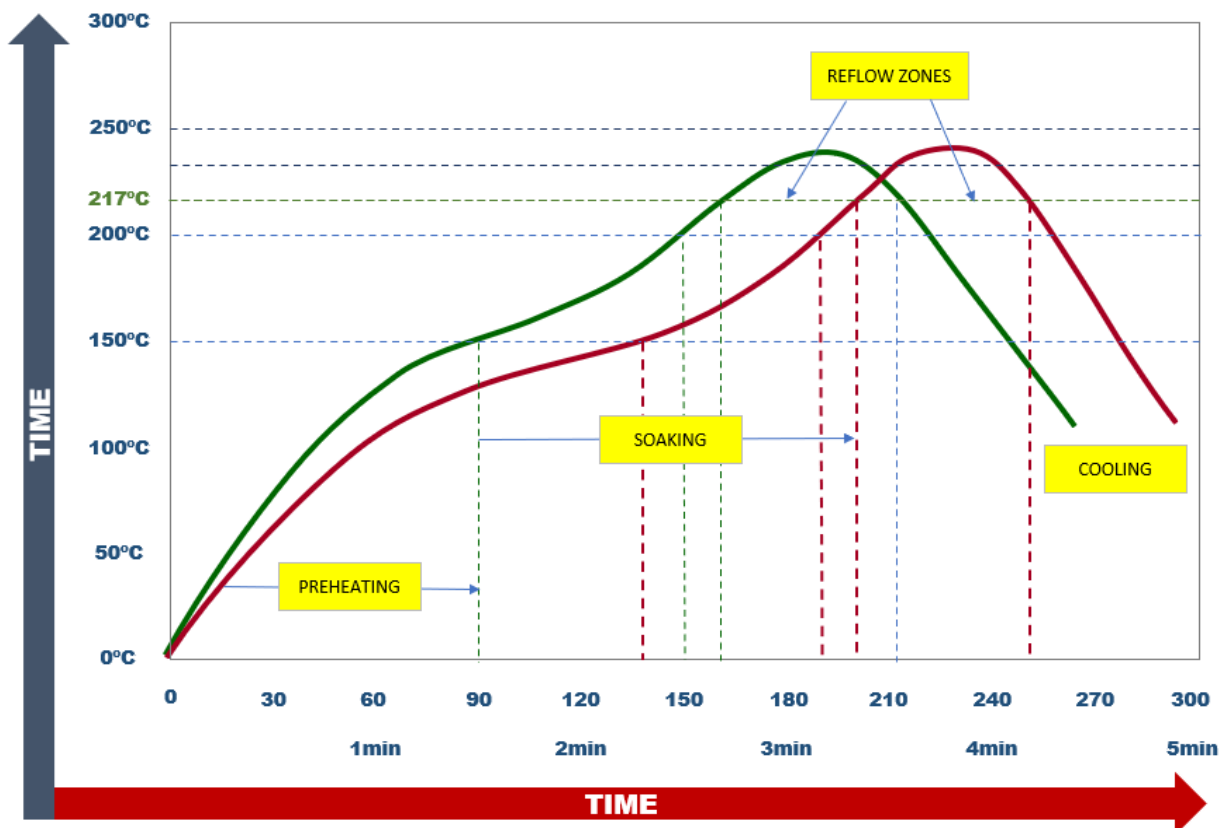
RECOMMENDED PROFILE

Use the following profiles as a guideline when starting a process, do necessary adjustments based on your desired results.

Preheating	Preheat Ramp-Rate	Soaking (150°C to 180°C)	Time Above Liquidus (183°C or 217°C)	Peak Temperature	Cooling Rate
(50°C to 150°C)	2 - 3°C/sec	30 to 90sec	30 to 90sec	SAC305: 235°C to 245°C SN63/PB37: 215°C to 225°C	2 - 3°C/sec

Note:

Typical short profiles recommended for low density board designs and long profiles for high density and thick boards.



HEALTH AND SAFETY

Please refer to this product's Safety Data Sheets for more information.

CONTACTS

For Technical and Service support, please send message in G-King website www.gkingsolder.com