

# RM822 Rosin Activated No Clean Solder Paste

## INTRODUCTION

**RM822** is a rosin activated, no clean solder paste, which allows a previously unseen level of repeatability and consistency. **RM822** offers excellent open time and abandon time. **RM822** is formulated to deliver excellent soldering especially with high temperature alloys like Sn/Sb5.

## ATTRIBUTES

- Enhanced activity for tough to solder surfaces and components
- Excellent tack performance and printer open time
- Extended "between print" abandon time
- Excellent for high temperature applications
- Formulated to work with Sn/Sb5 and Sn5/Ag2.5/Pb92.5

## PRODUCT INFORMATION

Alloys:	Sn/Sb5, Sn5/Ag2.5/Pb92.5
Powder Size:	Available in type 2 and type 3
Packaging:	500 gram jars or cartridges. Available in larger size cartridges by request
Flux:	RM822 flux available in 10CC and 30CC syringes

## STORAGE AND HANDLING

**RM822** should be refrigerated at 0-10°C to prolong shelf life. At this range the shelf life will exceed 6 months. Cartridges should be stored tip down. When refrigerated, warm up paste container to room temperature for up to four hours. Paste must be at  $\geq 19^{\circ}\text{C}$  before processing. Working range of **RM822** is between 19-32°C.

## PRINTING

Fine Line Stencil's Slic and UltraSlic™ stencils are recommended for best printing characteristics among stencil types. Below are surface area ratios achieved:

**Slic  $\leq 0.6$**

**UltraSlic™  $\leq 0.55$**

## PRINTER OPERATION

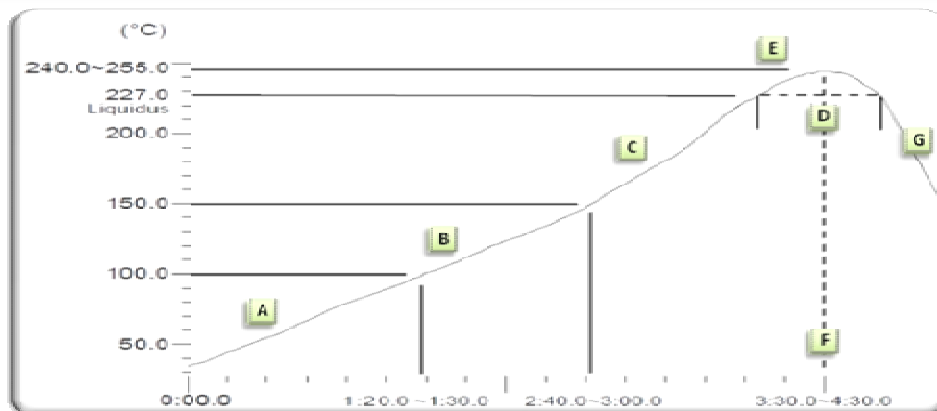
The following are general recommendations for stencil printer optimization. Adjustments may be necessary based on specific process requirements.

Solder Paste Bead:	2 cm. Add when bead goes below 1 cm
Squeegee:	Metal, Slic blade preferred. 60 degrees from horizontal
Speed:	25 to 150 mm/sec.
Pressure:	0.18-0.27 Kg/cm (squeegee length)
Underside Wipe:	Slic and UltraSlic should exceed > 10 prints/wipe
Stencil life:	> 8 hours at 30+60% RH and 20-25°C

## STANDARD PRODUCT AVAILABILITY

Alloy	Metal loading
Sn/Sb5	82% type 3 for pin transfer 88-89% for print
Sn5/Ag2.5/Pb92.5	85% type 2 for pin transfer 88-89% for print

## RECOMMENDED REFLOW PROFILE



### HEATING

A linear ramp of 0.7°C to 2.0°C/second is suggested to gradually remove the solvents and other volatile components in the solder paste. This also helps in minimizing solder balls, beading and bridging from hot slump.

A linear ramp also helps minimize depletion of flux activity which can occur with excessive temperature, extended preheat times, and at very high reflow temperatures.

A profile with a soak between 200-210°C for less than 20 seconds can be used to reduce void formation on BGA and CSP devices.

While a linear profile typically does not produce tombstoning, a short 10-20 second dwell prior to transitioning into the liquidus point of the solder, and minimizing the  $\Delta T$  between soak and liquid temperatures will help minimize tombstoning if experienced.

### STANDARD LINEAR PROFILE GUIDELINES

A linear ramp-style profile is recommended for RM822 however, it will also perform well in ramp-soak profiles.

Standard Linear Profile	
Ramp Rate	• 0.7°C ~ 2.0°C Per Second Typical
Time Above Liquidus (TAL)	• Target 50~55 Seconds Nominal • 45~75 Second Process Window
Peak Temperature	• 265°C Nominal for Sn/Sb5 • 260°C~270°C Process Window • 320 - 340°C for Sn5/Ag2.5/Pb92.5
Profile Length	• 3½ ~ 4 ½ Minutes Max • From 45°C to Profile Peak

Cool Down

• 3.0°C ~ 4.0°C Per Second Typical

### MATERIAL SAFETY DATA SHEETS

Material Safety Data Sheets (MSDS) are available online at [www.fctassembly.com](http://www.fctassembly.com)

### TEST RESULTS

J-STD-004A (IPC TM-650) Test	Result
Flux Type (per J-STD-004A)	ROH1
Copper Mirror	High activity
Halide Test	0.20 – 0.30%
Silver Chromate	Halides present
Fluoride test	Fluoride present
Ion Chromatography	Halides present
J-STD-005 (IPC-TM-650) Test	Result
Brookfield viscosity pin transfer	170 to 350 Kcps
Brookfield viscosity print	600 to 850 Kcps
Slump	Pass
Solder Ball	Pass
Wetting	Pass
Bellcore Test	Result
SIR	Pass
Electromigration	Pass