



# RMA258-15R Sn62 and Sn63



## RMA Solder Paste

### Features:

- Long Pause-to-Print Capabilities
- Enhances Fine Print Definitions
- No Head-in-Pillow
- Excellent Wetting, Even Leadless Devices
- Exceptional Reflow During Long, Hot Profiles
- Reduced Voiding

### Description:

RMA258-15R is a rosin based solder paste that has been developed to offer long pause-to-print capabilities while enhancing fine print definitions. RMA258-15R reduces such defects as voiding and eliminates head-in-pillow. The superior wetting ability of RMA258-15R results in bright, smooth and shiny solder joints. RMA258-15R is capable of exceptional reflow during long, hot profiles. RMA258-15R leaves medium, amber colored post process residues.

The RMA designator is not a current designator of products since QQS-571 and MIL-14256 have been transferred to IPC-J-STD 004, 005 and 006. However, AIM personnel still understand the RMA terminology. Along with the military and federal government specifications that now fall under IPC, the NASA, BS and DIN standards are also still supported by AIM.

### Printing:

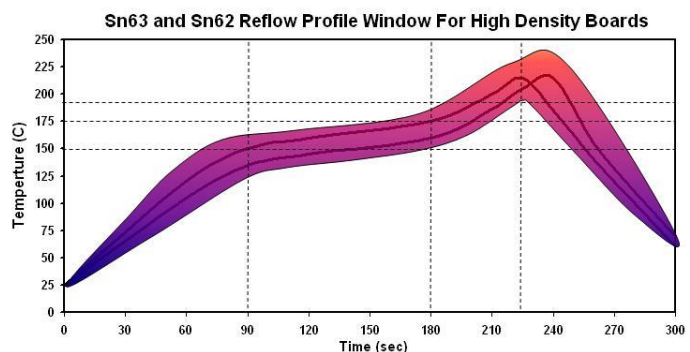
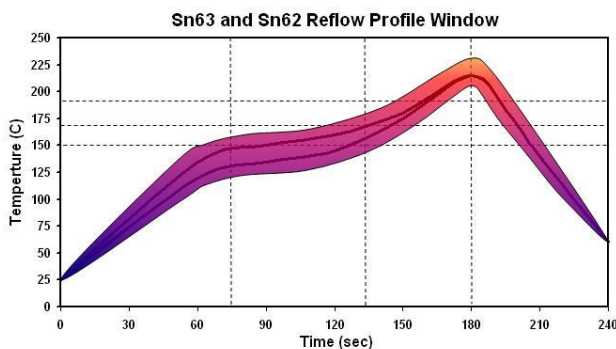
- Apply sufficient paste to the stencil to allow a smooth, even roll during the print cycle (a bead diameter of 12 to 16 mm (½ to ⅝ inch) is normally sufficient to begin).
- Apply small amounts of fresh solder paste to the stencil at controlled intervals to maintain paste chemistry and workable properties.
- RMA258-15R provides the necessary tack time and force for today's high speed placement equipment, which will enhance product performance and reliability.
- Cleaning of your stencil will vary by application; however, it can be accomplished using AIM DJAW-10 stencil cleaner.

### RECOMMENDED INITIAL PRINTER SETTINGS BELOW ARE DEPENDENT ON PCB AND PAD DESIGN

| PARAMETER         | RECOMMENDED INITIAL SETTINGS | PARAMETER               | RECOMMENDED INITIAL SETTINGS |
|-------------------|------------------------------|-------------------------|------------------------------|
| Squeegee Pressure | 0.9 - 1.5 lbs/inch of blade  | PCB Separation Distance | 0.75 - 2.0 mm (.030 - .080") |
| Squeegee Speed    | 0.5 - 6 inches/second        | PCB Separation Speed    | 3.0 - 20.00 mm/second        |
| Snap-off Distance | On Contact 0.00 mm (0.00")   |                         |                              |

### Reflow Profile:

Two unique profile families are depicted below; both can be used in ramp-spike or ramp-soak-spike applications, and they each have similar reflow temperatures. The two profiles differ in where they reach their respective peak temperatures, as well as the time above liquidus (TAL). The shorter profile of the two would apply to smaller assemblies, where as the longer profile would apply to larger assemblies, such as backplanes or high-density boards. The shaded area defines the process window. Oven efficiency, board size/mass, component type and density all influence the final profile for a given assembly. These profiles are starting points, and processing boards with thermal-couples attached is recommended to optimize the process.



| <i>RATE OF RISE 1.5-2°C / SEC MAX</i> | <i>RAMP TO 150°C (302°F)</i> | <i>PROGRESS THROUGH 150°C-170°C (302°F-338°F)</i> | <i>TO PEAK TEMP 220°C-210°C (428°F-410°F)</i> | <i>TIME ABOVE 183°C (381°F)</i> | <i>COOLDOWN ≤ 4 °C / SEC</i> | <i>PROFILE LENGTH AMBIENT TO PEAK</i> |
|---------------------------------------|------------------------------|---|---|---------------------------------|------------------------------|---------------------------------------|
| Short Profiles                        | ≤ 60 Sec                     | 15-45 Sec   | 45-75 Sec                                     | 45-60 Sec                       | 45± 15 Sec                   | 2.75-3.75 Min                         |
| Long Profiles                         | ≤ 90 Sec                     | 60-90 Sec   | 45-60 Sec                                     | 45-75 Sec                       | 45± 15 Sec                   | 4.0-5.0 Min                           |

❖ THE RECOMMENDED REFLOW PROFILE FOR RMA258-15R IS PROVIDED AS A GUIDELINE. OPTIMAL PROFILE MAY DIFFER DUE TO OVEN TYPE, ASSEMBLY LAYOUT, OR OTHER PROCESS VARIABLES. CONTACT AIM TECHNICAL SUPPORT IF YOU REQUIRE ADDITIONAL PROFILING ASSISTANCE.

### Compatible Products:

- AIM Lead-Free Electropure Solder Bar
- NC Paste Flux, No-Clean Tacky Flux
- NC270WR VOC-Free No-Clean Spray Flux
- NC264-5 No-Clean Flux Spray/Foam
- Glowcore No-Clean Cored Wire
- One-Step Underfill FF35
- Epoxy 4044 Chip Bonding Epoxy

### Cleaning:

- RMA258-15R is a rosin based formula that may be cleaned if necessary with saponified water or an appropriate solvent cleaner.
- Please refer to the AIM cleaner matrix for a list of compatible cleaning materials.

### Handling and Storage:

- RMA258-15R is best used within 9 months at 4° C-12° C (40° F-55° F) or 4 months at room temperature.
- Allow the solder paste to warm up completely and naturally to ambient temperature (8 hrs.) prior to breaking the seal for use.
- Mix the product lightly and thoroughly (1-2 mins. max) to ensure even distribution of any separated material.
- Do not store new and used paste in the same container, and reseal any opened containers while not in use.
- Replace the internal plug and cap of the 500 gram jars to ensure the best possible seal.

### Physical Properties:

| <i>ITEM</i>   | <i>SPECIFICATION</i>                          |
|---------------|---|
| Appearance    | Gray, Smooth, Creamy                          |
| Alloy         | Sn62 and Sn63                                 |
| Melting Point | 183° C  |
| Particle Size | T3 , T4, T5                                   |
| Viscosity     | Print/dispense versions available.            |
| Packaging     | Available in all industry standard packaging. |

**Test Data Summary:**

| <i>CLASSIFICATION</i>       |  |  |  |
|-----------------------------|--|--|--|
| Product Name                | IPC Classification to J-STD-004        | Copper Mirror to J-STD-004                     | Silver Chromate to J-STD-004                                   |
| RMA258-15R                  | ROLO                                   | LOW  | PASS   |
| <i>POWDER TESTING</i>       |  |  |  |
| No.                         | Item                                   | Results  | Test Method  |
| 1                           | Powder Size                            | Type 3 – 45-25 micron<br>Type 4 – 38-20 micron | IPC TM 650 2.2.14  |
| 2                           | Powder Shape                           | Spherical                                      | Microscope   |
| <i>FLUX MEDIUM TESTING</i>  |  |  |  |
| No.                         | Item                                   | Results  | Test Method  |
| 1                           | Acid Value                             | 133.08 mg KOH/ g flux                          | J-STD-004 IPC TM 650 2.3.13                                    |
| 2                           | Halide Content                         | Silver Chromate Paper - Pass                   | J-STD-004 IPC TM 650 2.3.35                                    |
| 3                           | Fluorides Spot Test                    | No fluoride                                    | J-STD-004 IPC TM 650 2.3.35.1<br>J-STD-004 IPC TM 650 2.3.35.2 |
| 4                           | Corrosion Flux                         | Pass   | J-STD-004 IPC TM 650 2.6.15                                    |
| 5                           | Halide-Free/Silver Chromate Paper Test | Pass   | J-STD-004 IPC TM 650 2.3.33                                    |
| 6                           | Surface Insulation Resistance          | Pass – See AIM Qualification Test Report       | J-STD-004 IPC TM 650 2.6.3.7                                   |
| 7                           | Oxygen Bomb                            | Bromine 269 mg/Kg<br>Chlorine <99.9 mg/Kg      | EN 14582:2007<br>SW 9056 SW 5050                               |
| <i>VISCOSITY TESTING</i>    |  |  |  |
| No.                         | Item                                   | Results  | Test Method  |
| 1                           | T-Bar Spindle Test Method              | 900 ± 10% kcps                                 | J-STD-005 IPC TM 650 2.4.34                                    |
| <i>SOLDER PASTE TESTING</i> |  |  |  |
| No.                         | Item                                   | Results  | Test Method  |
| 1                           | Tack Test                              | 48.8 g   | J-STD-005 IPC TM 650 2.4.44                                    |
| 2                           | Tack Test                              | 94.8 g   | JIS Z 3284 Annex 9   |
| 3                           | Solder Ball Test                       | Pass   | J-STD-005 IPC TM 650 2.4.43                                    |
| 4                           | Wetting Test                           | Pass   | J-STD-005 IPC TM 650 2.4.45                                    |
| 5                           | Paste Shelf Life                       | 4°C (39°F) = 9 months                          | AIM TM 125-11  |
| 6                           | Solder Paste Slump Test                | Pass   | J-STD-005 IPC TM 650 2.4.35                                    |

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 AIM IS ISO9001:2008 & ISO14001:2004 CERTIFIED

The information contained herein is based on data considered accurate and is offered at no charge. Product information is based upon the assumption of proper handling and operating conditions. All information pertaining to solder paste is produced with 45-micron powder. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Please refer to <http://www.aimsolder.com/Home/TermsConditions.aspx> to review AIM's terms and conditions.