



## SPECIFICATION

**NAME : ALMIT SRC Solder Paste  
SJ-7 HM1-RMA V14L**

| <b>Lot No.</b> | <b>Marketing Name</b>   |
|----------------|---|
|                | SJ-7 HM1-RMA V14L<br>Solder Powder Size: 25-45 $\mu$ m (Type 3) |

### **NIHON ALMIT Co. Ltd.**

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**1. Product Name:** SJ-7 HM1-RMA V14L

**2. Scope:** This specification is specified for Almit solder paste SJ-7 HM1-RMA V14L delivered by Nihon Almit Co, Ltd to Messrs. \_\_\_\_\_

**3. Weight and Tolerances:** (kg)

|                  |             |            |             |
|------------------|-------------|------------|-------------|
| <b>Weight</b>    | 0.5         | 0.7        | 1           |
| <b>Allowance</b> | + 0.01, - 0 | +0.01, - 0 | + 0.01, - 0 |

**4. Chemical Composition:** ( wt. % ) ( J-STD-006 / IPC-TM-650 )

**SJ-7 HM1-RMA V14L**

| <b>Compo.</b> | <b>Sn</b> | <b>Pb</b> | <b>Ag</b> | <b>Sb</b> | <b>Cu</b> | <b>Bi</b> | <b>Zn</b> | <b>Ni</b> |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| SJ-7          | 61.5/62.5 | Bal       | 2.8/3.2   | 0.3/0.7   | ≤ 0.08    | ≤ 0.1     | ≤ 0.005   | ≤ 0.01    |

| <b>Fe</b> | <b>Al</b> | <b>As</b> | <b>Cd</b> | <b>Au</b> | <b>In</b> | <b>P</b> | <b>S</b> | <b>Additives</b> |
|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|------------------|
| ≤ 0.02    | ≤ 0.005   | ≤ 0.03    | ≤ 0.002   | ≤ 0.05    | ≤ 0.1     | ≤ 0.01   | ≤ 0.005  | 0.005 / 0.025    |

**5. Solder Powder Size & Distribution:**

| <b>Size ( μm )</b> |                              |       |       |
|--------------------|------------------------------|-------|-------|
| 25/45              | <b>Powder Size ( μm )</b>    | + 45  | - 20  |
|                    | <b>Distribution ( wt % )</b> | ≤ 5.0 | ≤ 1.0 |

**6. Characteristics:**

| <b>Items</b>                         | <b>Characteristics</b> | <b>Test Methods</b> |
|--------------------------------------|------------------------|---------------------|
| Flux Content ( wt % )                | 10.0 +/- 0.5           | JIS-Z-3197          |
| Halogens                             | Pass                   | IPC-TM-650,2.3.33   |
| Non Volatile Residue                 | Pass                   | IPC-TM-650,2.3.34   |
| Cu Mirror Test                       | Pass                   | IPC-TM-650,2.3.32   |
| Surface Insulation Resistance ( Ω )  | ≥ 1 x 10 <sup>12</sup> | IPC-TM-650,2.6.3.3  |
| Wetting ( % )                        | ≥ 80                   | IPC-TM-650,2.4.45   |
| Cu Plate Corrosion Test              | Pass                   | IPC-TM-650,2.3.32   |
| Slump                                | Pass                   | IPC-TM-650,2.4.35   |
| Flux Type                            | L1                     | J-STD-0004          |
| <b>See also SJ-7 Evaluation Data</b> |                        |                     |

**7. Physical Properties:**

**SJ-7 HM1-RMA V14L**

| <b>Solidus Degs C</b> | <b>Liquidus Degs C</b> | <b>Specific Gravity</b> |
|-----------------------|------------------------|-------------------------|
| 179                   | 187                    | 8.4                     |

## 8. Construction of one Lot:

Manufactured in lots varying between 10 kg's and 100 kg's

## 9. Quality & Inspection.

Inspection criteria are applied to each lot as follows :-

| Item No. | Inspection Item      |  |  |
|----------|----------------------|--|--|
| 1        | Appearance           | Colour   | Comparison with Specimen   |
| 2        | Weight               | Net Weight   | - 0 , + 0.01 ( kg )  |
| 3        | Solder Powder Size   | 25/45  | $\geq 90$ ( wt. % )  |
| 4        | Chemical Composition | Sn   | $62.0 \pm 0.5$ ( wt % )  |
|          |                      | Ag   | $3.0 \pm 0.2$ ( wt% )  |
|          |                      | Sb   | $0.5 \pm 0.2$ ( wt% )  |
|          |                      | Other Additives                                    | $0.15 \pm 0.2$ ( wt% )   |
|          |                      | Pb & Impurities                                    | Rest   |
| 5        | Characteristics      | Flux Content                                       | 10.0 +/- 0.5 ( wt % )  |
| 6        |                      | Solder Balling Test<br>( * Nihon Almit Method )    | Comparison with<br>limit specimen                                |
| 7        |                      | Viscosity<br>( S Type, 10 rpm, 25 <sup>0</sup> C ) | 150~300 ( Pa·s )   |
| 8        |                      | Solderability on Cu Plate                          | Comparison with specimen   |
| 9        |                      | Dryness  | Chalk powders should<br>be easily removed<br>from each specimen. |

NB. \* Straight lines of solder paste are printed on to a JIS-2 type substrate, then reflowed. The reflowed solder is then examined with a stereo microscope at 30 X magnification. Not more than one Solder ball of a diameter no larger than one-fifth of the pattern gap shall be allowed per location on each pattern gap.

## 10. Packaging:

### SJ-7 HM1-RMA V14L

| Individual Packaging |                                     | Outer Packaging |               |
|----------------------|-------------------------------------|-----------------|---------------|
| Unit                 | Packaging                           | Unit            | Packaging     |
| 500 grms             | Polyethylene pots<br>with inner lid | 10.0 kg         | Cardboard Box |
| 700 grms             | Polyethylene cartridge              | 14.0 kg         | Cardboard Box |
| 1000 grms            | Polyethylene pots<br>with inner lid | 20.0 kg         | Cardboard Box |

**11. Identification:****SJ-7 HM1-RMA V14L**

|                              | <b>Polyethylene pot</b>                            | <b>Cardboard box</b>     |
|------------------------------|--|--------------------------|
| <b>Name</b>                  | Almit SRC Solder Paste<br><b>SJ-7 HM1-RMA V14L</b> | Same as Polyethylene pot |
| <b>Alloy type</b>            | Indicate " SJ-7 " in the product name              | Ditto                    |
| <b>Lot No.</b>               | ( Example ) 940108-1                               | Ditto                    |
| <b>Solder Powder Size</b>    | 25 - 45 $\mu$ m                                    | Ditto                    |
| <b>Date of Manufacture</b>   | ( Example ) 97 - 03 - 24 *                         | Ditto                    |
| <b>Product Validity Date</b> | ( Example ) 09 - 23 **                             | Ditto                    |
| <b>Weight ( Nett )</b>       | ( Example ) 500 grms                               | Ditto                    |
| <b>Company Name</b>          | Nihon Almit Co. Ltd.                               | Ditto                    |

NB \* Date is shown as Year (97) Month (03) Day (24)

\*\* Date is shown as Month (06) Day (23) This Date is usually 6 months after Mfg. Date.

**12. Maker's Address:**

Nihon Almit Co. Ltd.

Miyata Bldg. 6F, 1 - 38, Yoyogi, Shibuya-ku, Tokyo, 151, JAPAN.

**13. Changes to this specification must be approved by:-**

Signed \_\_\_\_\_ Date \_\_\_\_\_

# HANDLING PROCEDURES FOR ALMIT SJ-7 HM1-RMA V14L SOLDER PASTE

## 1) STORAGE

Unopened containers should be kept in a refrigerator at 3 to 8 Degs C.

Paste should be used as soon as possible after the container has been opened.

Keep the container **sealed as much as possible** to reduce contamination and oxidation.

## 2) USAGE

Before screening, the paste must be allowed to reach room temperature, this may take up to 8 hours dependant on volume.

After the paste has reached room temperature remove the lid and stir slowly using a stainless steel spatula. Try to avoid trapping air in the paste as much as possible thus keeping oxidation to a minimum.

After screening, components may be placed ( mounted ) immediately and passed straight into the reflow oven. See also Almit Solder Paste Reflow Parameters Data Sheet.

The paste is designed for no clean assembly but post reflow residues may be cleaned if required by customers specifications. Almit can advise on suitable cleaning processes.

At the end of the batch/shift any used paste **may** be discarded, however, to minimise wastage without any loss of performance **ALMIT** recommend that any paste remaining on the screen is carefully removed and stored in a clean airtight pot, ( a spare ALMIT pot is ideal ) mark the pot with the specification of the paste and store overnight in a refrigerator if required. During the next batch/shift this paste may be used to **supplement** the **fresh paste** added throughout the day, care being taken to ensure the specifications of both pastes are identical and the paste has reached room temperature.

Any residual paste on the screen or squeegee should be removed using a recommended solvent or Alcohol.

## 3) ADDITIONAL INFORMATION

The Solder paste contains **LEAD**.

Ingestion, contact with eyes and skin must be avoided at all times using normal Health & Safety procedures. i.e.: Rubber gloves.

The Solder paste must only be used for industrial use under controlled conditions by trained operators.

Avoid inhalation of any process gasses. To be used in a properly ventilated area.

## 4) HEALTH & SAFETY NOTICE

Any solder paste on the skin must be removed at once with Alcohol followed by washing with detergent and warm water.

The use of Goggles and Gloves is strongly recommended.

Reference should also be made to the **ALMIT COSHH** documentation.

## 5) DELIVERY

The product is held in stock in the UK, hence delivery in the UK is usually within 3 working days of receipt of an order.