Date:

TO:

# SPECIFICATION

## NAME : almit SRC Solder Paste

## LFM-48W GT(R)-S

| Item No. | Kind |
|---|---|
| | LFM-48W GT (R)-S<br>Flux Content 12.0%<br>Solder Powder Size: 20-38 (μm) |

NIHON ALMIT CO., LTD

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TEL: 092-483-0367 FAX: 092-483-0324

1. Name :
almit SRC Solder Paste LFM-48W GT(R)-S

2. Scope :
This spec. is specified for almit solder paste LFM-48W GT(R)-S delivered by Nihon Almit Co., Ltd. to Messrs. ______________________ .

3 Net weight & Allowances: (g)

| Net weight | 500 | 1000 |
|---|---|---|
| Allowance | -0, +10 | |

4. Chemical Composition : (wt%)

| Chemical element | Main constituents | | | Impurities | | | | |
|---|---|---|---|---|---|---|---|---|
| | Sn | Ag | Cu | Pb | Sb | Bi | Au | In |
| Standard | Remainder | 3.0±0.2 | 0.5±0.1 | <0.05 | ≦0.10 | ≦0.05 | ≦0.05 | ≦0.10 |

| Chemical element | Impurities | | | | | |
|---|---|---|---|---|---|---|
| | Al | As | Cd | Fe | Ni | Zn |
| Standard | ≦0.001 | ≦0.03 | ≦0.002 | ≦0.02 | ≦0.01 | ≦0.001 |

5. Solder Powder Size & Distribution
% of Sample by Weight – Nominal Size

| Type | None Larger Than | Less Than 1% Larger than | 90% Minimum Between | 10% Maximum Less Than |
|---|---|---|---|---|
| Type4 | 40 Microns | 38 Microns | 38-20 Microns | 20 Microns |

6. Quality characteristics:

| Test items | Standard | Test Methods |
|---|---|---|
| Solder Paste Metal Content by Weight (wt%) | 88.0±1.0 | IPC-TM-650 2.2.20 |
| Fluorides by Spot | Pass | IPC-TM-650 2.3.35.1 |
| Corrosion, Flux | Pass | IPC-TM-650 2.6.15 |
| Surface Insulation Resistance (SIR) (Ω) | $\geqq 1\times10^8$ | IPC-TM-650 2.6.3.3 |
| Electrochemical Migration | Pass | IPC-TM-650 2.6.14.1 |
| Flux Composition | RO | J-STD-004B |
| Flux Type | L1 | IPC-TM-650 2.3.28.1 |

7. Physical Properties:

| Metal Name | Solidus (℃) | Liquidus (℃) | Specific Gravity |
|---|---|---|---|
| LFM-48 | 217 | 220 | 7.4 |

8. Lot Size :
A single lot is consisted of, and may vary between 10 - 100kg, depends upon the production plan.

9. Product inspection:
Inspection items are applied to each lot as follows:

| Item No. | Inspection Item | Contents | Standard |
|---|---|---|---|
| 1 | Appearance | Color | Comparison with Limit Specimen |
| 2 | Weight | Net Weight | -0, +10 (g) |
| 3 | Solder Powder Size | 20/38 (W) | 94≦ (wt%) |
| 4 | Metal Composition | Sn | Balance (wt%) |
| | | Ag | 3.0±0.2 (wt%) |
| | | Cu | 0.5±0.1 (wt%) |
| 5 | Characteristics | Flux Content | 12.0±0.5 (wt%) |
| 6 | | Solder Balling Test (*Almit Method) | Comparison with Limit specimen |
| 7 | | Viscosity (Spiral type, 10rpm, 25℃) (IPC-650-2.4.34.4) | 170±30 (Pa・s)<br>170000±30000 (cp) |
| 8 | | Solderability on Cu Plate | Comparison with Limit Specimen |
| 9 | | Dryness | Chalk powder should be easily removed from each test specimen. |

*Straight lines of solder paste are printed on to a JIS-2 type substrate then reflowed.
The reflowed solder is examined with a stereo microscope at 30X magnification. No more than 2 solder balls larger than one fifth the size of the pattern gap is allowed per gap.

10. Packing :

| Individual Packaging | | Outer Packaging | |
|---|---|---|---|
| Unit | Packaging | Unit | Packaging |
| 500 g | Polyethylene bottle with inner lid plastic bag | 10.0 kg<br>20.0 kg | Cardboard box |
| 6oz ( 500g)<br>12oz (1000g) | Cartridge for SEMCO | 10 cartridges<br>20 cartridges | |

11. Identification :

| | Polyethylene bottle or Cartridge | Cardboard Box |
|---|---|---|
| Name | almit SRC Solder Paste<br>LFM-48W GT(R)-S | Same as the left |
| Lot No. | (Ex.) 150101-1 | Ditto |
| Solder Powder Size | 20-38 μm | Ditto |
| Use before. | (Ex.) 15-06-30<br>(Indicate in the Christian era) | Ditto |
| Net weight | (Ex.) 500 g | Ditto |
| Company Name | NIHON ALMIT CO., LTD. | Ditto |

12. Maker Address :
Nihon Almit Co., Ltd.
Almit Bldg., 2-14-2 Yayoicho, Nakano-ku, Tokyo, Japan

13. In case of changing this spec., it should be accepted by ______________________ .

# ≪HOW TO HANDLE LFM-48W GT(R)-S≫

1. Storage:
    - Hold in a refrigerator. (0-10℃)
    - It is recommended to use within 6 months from manufacturing date.
    - The solder paste should be used as quickly as possible once lid has been opened.
    - Unused solder paste in the jar should be refrigerated after re-applying the inner and outer lids.

2. How to Use:
    - Prior to usage, solder paste should be removed from refrigeration for over 2 hours until it reaches room temperature.
    - We recommend to stir the solder paste by mixing machine before use it. When stir by a spatula, open the jar after the solder paste is warmed up to room temperature and stir slowly to make the paste homogeneous. Caution must be taken not to mix in air.
    - After printing the solder paste, mount components immediately and let it pass through reflow furnace.
    - Slowly heat the reflow furnace at 1.0 to 2.0℃/sec till reaching 120℃. Set peak temperature at 170 to 190℃ during pre-heating and 230 to 250℃ during reflow.
    - This solder paste corresponds to No-Clean process, however confirmation may be required whether No-Clean process is applicable under user's expectancy.
    - White residue (insulator) may appear after cleaning.
    - Solder paste must be wiped off from metal mask, squeegee and spatula by applying solvent such as alcohol immediately after use.

3. Caution:
    - The solder paste is not edible.
    - The solder paste is for the industrial use only.
    - Avoid contact with eyes and skin.
    - Avoid inhalation of gases emitted by solder paste during use.
    - Provide proper ventilation.

4. Notice:
    - If contact with skin, wiped off with like alcohol and wash with soap and water, immediately.
    - Use rubber gloves and protective glasses, if necessary.

Issue date　Oct.20.2015

| Approved | Confirm | Prepared |
|---|---|---|
| Tadashi Sawamura | Yoichi Fujii | Hideto Takayama |

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