

# Trade Name:

# LFM-48W TM-HP 12%

- 1. Company Address:
   Almit GmbH
   Ph.: +49 6066 96884-0

   Dekan-Groh-Straße 4
   Fax: +49 6066 96884-18

   (DE) 64720 Michelstadt near Frankfurt
- 2. Validity: This specification is specified for: Almit-Solder-Paste LFM-48W TM-HP 12% Delivered by Almit GmbH to: \_\_\_\_\_\_

#### 3. Diameter & Allowance:

| Weight    | 500g | 500g | 700g     | 1000g | 0 |
|-----------|------|------|----------|-------|---|
| Allowance |      |      | -0, +10g |       |   |

# 4. Deliverable Reel Size:

| Metal Name | Solidus °C | Liquidus °C | Specific Gravity |
|------------|------------|-------------|------------------|
| LFM-48     | 217        | 220         | 7.4              |

### 5. Physical Properties:

| Test                       | Characteristics     | Test Methods        |  |
|----------------------------|---------------------|---------------------|--|
| Metal Content              | 88.0 ± 1.0          | IPC-TM-650 2.2.20   |  |
| Silver Chromate            | pass                | IPC-TM-650 2.3.33   |  |
| Copper Mirror Test         | pass                | IPC-TM-650 2.3.32   |  |
| SIR (85°C, 85%, 168hr) (Ω) | ≥ 1x10 <sup>8</sup> | IPC-TM-650 2.6.3.3  |  |
| Corrosion Test             | pass                | IPC-TM-650 2.6.15   |  |
| Flux materials composition | RO                  | J-STD 004 1.2       |  |
| Quantitative Halide        | L1 < 0.5%           | IPC-TM-650 2.3.35   |  |
| Fluorides By Spot Test     | pass                | IPC-TM-650 2.6.35.1 |  |

#### 6. Characterisitcs:

| Composition | Components |     |       |        |       |       |        |       |
|-------------|------------|-----|-------|--------|-------|-------|--------|-------|
| composition | Sn         | Ag  | Cu    | Pb     | Sb    | Bi    | Au     | In    |
| Standard    | Rest       | 3.0 | 0.5   | < 0.05 | ≤0.10 | ≤0.05 | ≤0.05  | ≤0.10 |
| Composition | Components |     |       |        |       |       |        |       |
| Composition | A          | 1   | As    | Cd     | Fe    | Ni    | Zn     |       |
| Standard    | ≤0.0       | 001 | ≤0.03 | ≤0.002 | ≤0.02 | ≤0.01 | ≤0.001 |       |

# 7. Solder Powder Size & Distribuon :

% of Sample by Weight – Nominal Size

| Туре       | not<br>larger than |            |                 | at most 10%<br>less than |
|------------|--------------------|------------|-----------------|--------------------------|
| Type 4 (W) | 40 Microns         | 38 Microns | 20 - 38 Microns | 20 Microns               |

# 8. Lot-Size: A single lot contains 500kg which is the amount of one melting.

### 9. Quality and Inspecon :

Inspecon items are applied to each lot as follows :

| Test<br>No. | Inspection Item    | Contents  | Standard                       |                               |  |
|-------------|--------------------|---|--------------------------------|-------------------------------|--|
| 1           | Appearance         | Color   | Comparison with                | omparison with Limit Specimen |  |
| 2           | Weight             | Net Weight  | -0 ; +10                       | (g)                           |  |
| 3           | Solder Powder Size | 20 - 38 µm (W)  | 94 ≤                           | (wt%)                         |  |
|             |                    | Sn  | Rest                           | (wt%)                         |  |
| 4           | Metal Composition  | Ag  | 3.0 ± 0.2                      | (wt%)                         |  |
| 4           |                    | Cu  | 0.5 ± 0.1                      | (wt%)                         |  |
|             |                    |   | 0                              | (wt%)                         |  |
| 5           |                    | Flux Content  | 12.0 ± 0.5                     | (wt%)                         |  |
| 6           |                    | Solder Balling Test   | Comparison with                | n Limit Specimen              |  |
| 7           | Characteristics    | Viscosity<br>(Spiral type, 10rpm, 25°C)<br>(IPC-650-2.4.34.3) | 200000 ± 30000<br>200 ± 30     | (cps)<br>(Pa•s)               |  |
| 8           |                    | Solderability on Cu-Plate                                     | Comparison with Limit Specimer |                               |  |
| 9           |                    | Dryness   | Chalk powder s removed from ea | 5                             |  |

\*Straight lines of solder paste are printed on 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 Package  | Outer Package |               |  |
|-------|---------------------|---------------|---------------|--|
| Unit  | Packing             | Unit          | Packing       |  |
| 500g  | Polyethylene bottle | 10kg ; 20kg   |               |  |
| 500g  | 6 oz Catridge       | 10kg          |               |  |
| 700g  | Proflow Cassette    | 7kg ; 14kg    | Cardboard Box |  |
| 1000g | 12 oz Catridge      | 10kg          |               |  |
|       |                     |               |               |  |

#### 11. Identification:

|                    | Polyethylene bottle  | Cardboard        |
|--------------------|----------------------|------------------|
| Name               | Almit-Solder-Paste   | same as the left |
| Name               | LFM-48W TM-HP 12%    | same as the left |
| Lot Nr.            | (Ex.) 120119-9       | dto.             |
| Solder Powder Size | 20 - 38 μm           | dto.             |
| Date of Mfg.       | (Ex.) 19.01.2012     | dto.             |
| Net Weight         | (Ex.) 500g           | dto.             |
| Maker              | Nihon Almit Co. Ltd. | dto.             |

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

- In case of changing this specification it should be accepted by:

   Signature\_\_\_\_\_\_
   Date\_\_\_\_\_\_
- **12.** This product is manufactured, using all guaranteed materials according to the legal law regulations.

# 13. Shelf Life:

Up to

6 month from the manufactured date (lot number).