



## SPECIFICATION

**NAME : ALMIT SRC Solder Paste  
LFM – 48 X TM-HP**

<b>Lot No.</b>	<b>Marketing Name</b>
	LFM – 48 X TM-HP Flux content 12.0% Solder Powder Size: 25-45 (µm)

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

Head Office: Almit Bldg., 2-14-2, Yayoicho, Nakano-ku, Tokyo  
164, **Japan.** Tel: 03-3379-2277 Fax: 03-3374-2593

Almit Technology Ltd: Unit 7, Forest Row Business Park, Station Road,  
Forest Row, East Sussex. RH18 5DW **England.**  
Tel: +44(0)1342 822 844 Fax: +44(0)1342 824 155

Almit GmbH: Flößerstr. 56, D-74321 Bietigheim-Bissingen,  
**Germany** Tel: +49 (0) 7142 773327 Fax: +49 (0) 7142 773335

Almit AB: Ögärdesvägen 21, SE-433 30 Partille, **Sweden** Tel: +46 (0) 31 3400270  
Fax: +46 (0) 31 3400275

Distributor in Sweden: VENSO Elektronik AB, Ögärdesvägen 21, SE-433 30 Partille, **Sweden**  
Tel: +46 (0) 31 3400250 Fax: +46 (0) 31 3400275

**1. Product Name: LFM – 48 X TM-HP**

**2. Scope:** This specification is for Almit solder paste **LFM – 48 X TM-HP** delivered by Nihon Almit Co. Ltd to Messrs. \_\_\_\_\_

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

<b>Weight</b>	0.5	1.0
<b>Allowance</b>	+ 0.01, - 0	+ 0.01, - 0

**4. Chemical Composition: ( wt% ) :**

<b>Composition</b>	<b>Sn</b>	<b>Cu</b>	<b>Ag</b>	<b>Sb</b>	<b>Pb</b>	<b>Bi</b>	<b>Zn</b>	<b>Fe</b>
LFM – 48 X TM-HP	Bal	0.4 ~0.6	2.8~3.2	≤0.12	≤0.09	≤0.1	≤0.002	≤0.02

<b>Al</b>	<b>As</b>	<b>Cd</b>
≤0.002	≤0.03	≤0.002

**5. Solder Powder Size & Distribution (J-STD-005 3.3.2)**

**% of Sample by Weight – Nominal Size**

<b>Type</b>	<b>None Larger Than</b>	<b>Less Than 1% Larger than</b>	<b>80% Minimum Between</b>	<b>10% Maximum Less Than</b>
Type3	50 Microns	45 Microns	45-25 Microns	20 Microns

**6. Characteristics :**

<b>Characteristics</b>	<b>Standard</b>	<b>Test Methods</b>
<b>Metal Percent (wt%)</b>	<b>88.0±1.0</b>	<b>IPC-TM-650 2.2.20</b>
<b>Silver Chromate</b>	<b>Pass</b>	<b>IPC-TM-650 2.3.33</b>
<b>Copper Mirror Test</b>	<b>Pass</b>	<b>IPC-TM-650 2.3.32</b>
<b>SIR (85°C, 85%, 168 hr, (measured out of chamber) (Ω)</b>	<b>≥1×10<sup>8</sup></b>	<b>IPC-TM-650 2.6.3.3</b>
<b>Corrosion Test</b>	<b>Pass</b>	<b>IPC-TM-650 2.6.15</b>
<b>Quantitative Halide</b>	<b>L1&lt;0.5%</b>	<b>IPC-TM-650 2.3.35</b>
<b>Fluorides By Spot Test</b>	<b>Pass</b>	<b>IPC-TM-650 2.6.35.1</b>

## 7. Physical Properties:

	LFM-48	Sn63
<b>Melting Point: Solidus (°C)</b>	217	183
<b>Liquidus(°C)</b>	220	183
<b>Specific Gravity</b>	7.4	8.4

## 8. Construction of one Lot:

A lot of between 10 kg's and 100 kg's may be individually produced.

## 9. Quality & 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	25/45 (X)	≥90 (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°C) (IPC-650-2.4.34.3)	200000±30000 (cps)
			200±30 (Pa's)
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. Packaging:

Individual Packaging		Outer Packaging	
Unit	Packaging	Unit	Packaging
500 grms	Polyethelene pot with inner lid	10.0 kg's	Cardboard Box
1000 grms	Polyethelene pot with inner lid	20.0 kg's	Cardboard Box

**11. Identification: LFM – 48 X TM-HP**

	<b>Polyethelene Pot</b>	<b>Cardboard box</b>
<b>Name</b>	Almit SRC Solder Paste <b>LFM – 48 X TM-HP</b>	Same as Polyethelene pot
<b>Sn Content</b>	Indicate " LFM-48" in the product name	Ditto
<b>Lot No.</b>	( Example ) 011127-1	Ditto
<b>Solder Sphere Size</b>	25 - 45 µm	Ditto
<b>Date of Mfg.</b>	( Example ) 01-11-27 *	Ditto
<b>Validation Date</b>	( Example ) 26-03-02 **	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 Day (26), Month (03), Year (02) This Date is usually 3 months after Mfg. Date.

**12. Makers Address:**

Nihon Almit Co. Ltd.

Almit Bldg. , 2-14-2 Yayoicho, Nakano-ku, Tokyo, 164, JAPAN.

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

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

## Appendix I

### HANDLING PROCEDURES FOR ALMIT LFM – 48 X TM-HP SOLDER PASTE

#### 1) STORAGE

Unopened containers should be kept in a refrigerator at  $5 \pm 2^{\circ}\text{C}$ .

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 2 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 may be used without cleaning but the customer's specifications must be respected.

If the flux residues **MUST** be removed consult Almit for advice on cleaning options.

At the end of the batch/shift any unused 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

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

Usually 2 weeks from receipt of order.