

Trade Name: LFM-48X TM-HP 14%**1. Company Address**

Almit GmbH Tel.: +49 6061 96925-0
Unterer Hammer 3 Fax: +49 6061 96925-18
Deutschland
(D) 64720 Michelstadt -
bei Frankfurt

2. Validity

This specification is specified for:
Solder Paste Lead Free LFM-48X TM-HP
14%
Delivered by Almit GmbH to:

3. Diameter & Allowence

| | | | | | |
|-----------|---------|-----|------|------|-----|
| Weight | 40g | 80g | 100g | 250g | 20g |
| Allowance | -0, +5g | | | | |

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) | ≥ 1 x 10 ⁸ | 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. Characteristics

| Composition | Components | | | | | | | |
|-------------|------------|-------|--------|-------|-------|-------|--------|-------|
| | Sn | Ag | Cu | Pb | Sb | Bi | Al | As |
| Standard | Rest | 3.0 | 0.5 | <0.05 | ≤0.10 | ≤0.05 | ≤0.001 | ≤0.03 |
| Composition | Components | | | | | | | |
| | Cd | Fe | Zn | | | | | |
| Standard | ≤0.002 | ≤0.02 | ≤0.001 | | | | | |

7. Solder Powder Size & Distribution

| | | | | |
|-----------|-------------|--------------|-----------------|-------------|
| Type | larger than | less than 1% | at least 80% | at most 10% |
| Type 3(X) | 50 Microns | 45 Microns | 25 - 45 Microns | 20 Microns |

8. Lot Size

A single lot contains 500kg which is the amount of one melting.

9. Quality and Inspection

Inspection items are applied to each lot as follows:

| Test No. | Inspection Item | Contents | Standard |
|----------|--------------------|---|--|
| 1 | Appearance | Color | Comparison with Limit Specimen |
| 2 | Weight | Net Weight | -0 ; +5 (g) |
| 3 | Solder Powder Size | 25-45 μ m | 90 \leq (wt%) |
| 4 | Metal Composition | Sn | Rest (wt%) |
| | | Ag | 3.0 \pm 0.2 (wt%) |
| | | Cu | 0.5 \pm 0.1 (wt%) |
| 5 | Characteristics | Flux Content | 14.0 \pm 0.5 (wt%) |
| | | Solder Balling Test | Comparison with Limit Specimen |
| | | Viscosity (Spiral type, 10rpm, 25°C) (IPC-650-2.4.34.3) | 90000 \pm 30000 90 \pm 30 (cps) (Pa.s) |
| | | Solderability on Cu-Plate | Comparison with Limit Specimen |
| | | Dryness | Chalk powder should be easily removed from each test specimen. |

*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 |
| 20g | 5cc Cartridge | | Cardboard box |
| 40g | 10cc Cartridge | | |
| 80g | 30cc Cartridge | | |
| 100g | 30cc Cartridge | | |
| 250g | 100cc Cartridge | | |

11. Identification

| | Polyethylene bottle | Cardboard |
|--------------------|----------------------|------------------|
| Name | LFM-48X TM-HP 14% | same as the left |
| Lot Nr. | (Ex) 120119-9 | dto. |
| Solder Powder Size | (X) | dto. |
| Date of Mfg. | (Ex.) 19.01.2012 | dto |
| Net-Weight | (Ex.) 500g | dto. |
| Maker | Nihon Almit Co. Ltd. | dto. |

12. Maker Address

Nihon Almit Co. Ltd. - Productive
Engineering Center
8154-227, Uenohara, Kitatsuru-gun,
Yamanashi, 409-0112 Japan

13. In case of changing this specification it should be accepted by

Signature _____ Date _____

14. This product is manufactured, using all guaranteed materials according to the legal law regulations

15. Shelf Life

1. Refrigerating is recommended at a temperature of 2-8°C to guarantee shelf life of 4 months
2. Paste can be stored at room temperature for 1 week up to 25°C prior to use (only applicable for jars)