

Standard Product Specification

Product	ECO SOLDER PASTE	Specification No.	Ed.	Page
Name	L23-BLT5-T8F	F2-5-PXBLT-002	2	1 / 6

1 · Scope

This specification covers the solder paste,

ECO SOLDER PASTE L23-BLT5-T8F, using lead-free solder alloy, used for wiring connection and so on, of electrical and electronic parts.



2 · Standard

2 · 1 Chemical composition of solder alloy (Test method : STM-9-1)

Composition and impurities are prescribed as following tables.

Composition (mass%)		
A g	B i	S n
1.0 ± 0.2	35 ± 1	Balance

Impurities							
less than mass%		mass% or less					
P b	C d	S b	C u	Z n	F e	A l	A s
0.04	0.003	0.11	0.05	0.001	0.02	0.001	0.03
		I n	N i	A u			
		0.02	0.01	0.003			

Date of Establish or Revision	Approval	
Revised on Aug , 07 2021	Q. A. Dept.	Manufacturing Dept.
	M. Kitamuki 	T. Hatazawa 

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2 · 2 Melting temperature range and specific gravity of solder alloy
(Reference value)

Melting temperature range °C	Specific gravity
Approx. 178 ~ 183	Approx. 8.6

2 · 3 Performance and standard

Items	Performance · Standard	Test Method
Appearance	It shall not have separated flux, and shall be in a smooth paste state.	STM-1
Flux content (mass%)	11.5 ± 0.5	STM-5
Viscosity of solder paste (Pa · s)	To be established after gathering manufacturing data.	STM-7-7
Grain size of powder (μ m)	36 ~ 25	STM-12-4
Chlorine content in flux (mass%)	0.02 or less	STM-27
Copper plate corrosion	Shall be passed	STM-28-1
Insulation resistance (Ω)	Ordinary state 1×10^{12} or more After humidifying 1×10^{10} or more	STM-30-8
Reflow property	No unmelted solder nor black product shall be permissible.	STM-34-1

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3 ・ Inspection Report

Inspection and test shall be carried out on each production lot about following items ① through ④, and the Inspection Report in which result is mentioned shall be attached at the time of delivery.

- ① Chemical composition of solder alloy
- ② Viscosity of solder paste
- ③ Flux content
- ④ Chlorine content in flux

4 ・ Packaging ・ Indication

4 ・ 1 Packaging

Container : Jar

Net : 500 g or 1 kg

4 ・ 2 Indication

The following items shall be indicated on the container with label.

- ① Product name
- ② Composition of solder alloy
- ③ Manufacturing date
- ④ Lot No.
- ⑤ Net mass
- ⑥ Validity
- ⑦ Precaution
- ⑧ Manufacturer's name
- ⑨ Product code

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5 ・ Guarantee period

The guarantee period of this product shall be three months from the manufacturing date, in a refrigerator (0～ 10℃) when unopened as it is.

6 ・ Precautions for safety

Stated in the separate documents, 「Instruction Manual」 and 「Material Safety Data Sheet」.

7 ・ Regulations

Stated in the separate documents, 「Instruction Manual」 and 「Material Safety Data Sheet」.

8 ・ Precautions in handling, storing, and disposing

Stated in the separate documents, 「Instruction Manual」 and 「Material Safety Data Sheet」.

9 ・ Regarding to environmental substance This

product conforms to RoHS Directive.

※ However, Pb and Cd are contained as an impurity of solder alloy, but the content is controlled to be less than 0.05% (500ppm) for Pb and 0.002% (20ppm) for Cd.

10 ・ Others

① We cannot guarantee the result of use nonconforming to or unspecified in this specification.

② You are requested not to divulge to any other company or publicize any matter related to this specification.

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1 1 · Test Method

STM-1 Appearance

Appearance shall be confirmed by visual observation as to the content specified by the applicable standard.

STM-2 Mass

Weighing shall be conducted using a weighing apparatus having a minimum graduation less than 5/10000th of the maximum weighing capacity.

STM-5 Flux Content

According to 「 JIS Z 3197 Testing Method for Soldering Fluxes 」 .

STM-7-7 Viscosity of Solder Paste

rpm.	10	3	4	5	10	20	30	10
min.	3	6	3	3	3	2	2	1
viscosity	A							

According to spiral method of attached book 6, of 「 JIS Z 3284 Solder paste 」 .
Set the sample to rotational viscometer made by Malcom Co., Ltd. and adjust the temperature of solder paste to 25 °C at 10 rpm. for about 3 min., and measure the viscosity at speed of revolution shown in above table, and let the value A be viscosity value.

STM-9-1 Chemical Composition

According to 「 JIS K 0116 General rules for atomic emission spectrometry 」 or to 「 JIS Z 3910 Methods for Chemical Analysis of Solder 」 .
However, blended silver (Ag) , according to 「 JIS Z 3910 Methods for Chemical Analysis of Solder 」 .

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STM-12-4 Grain size of Powder

Measurement shall be taken with the Microtrac Particle Size Analyzer.

STM-27 Chlorine Content

According to 「 JIS Z 3197 Testing Method for Soldering Fluxes 」 .

STM-28-1 Copper Plate Corrosion

According to 「 JIS Z 3197 Testing Method for Soldering Fluxes 」 .

However, test pieces shall be made as follows;

Print solder paste on copper plates ϕ 10 mm and 0.3 mm thick, reflow them by preheating for 20 sec. at solidus line temp. -30°C and heating regularly for 40 sec. at liquidus line temp. $+50^{\circ}\text{C}$, and cool.

STM-30-8 Insulation Resistance

According to attached book 3 of JIS Z 3284, Solder paste.

However, test condition shall be as follows ;

Temperature $40 \pm 2^{\circ}\text{C}$ 、 Relative humidity 90 ~ 95 % 、 168 hrs., and measurement of resistance shall be done with take the specimen out of chamber.

STM-34-1 Reflow Property

Print solder paste on copper plates ϕ 10 mm and 0.3 thick and reflow them by preheating for 20 sec. at solidus line temp. -30°C and heating regularly for 40 sec. at liquidus line temp. $+50^{\circ}\text{C}$.

After cooling examine visually whether there is any black product or unmelted solder powder on the solder surface or not.

