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Electroplated coatings of tin-lead alloys

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS H 8624 :1990** is replaced with **JIS H 8624 :1999**.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

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Electroplated coatings of tin-lead alloy

Introduction This Japanese Industrial Standard has been prepared based on the corresponding parts of the International Standard shown in Remarks of clause 1 Scope without any modification in technical contents, however, the some specifications, which are not specified in the corresponding International Standard, have been supplemented in this Standard.

1 Scope This Japanese Industrial Standard specifies electroplated coatings of tin-lead alloy⁽¹⁾ (hereafter referred to as “coating”) plated on the significant surface of such basis metal as iron or copper or its alloy for the purpose of improving solderability, electrical characteristics, and corrosion resistance of electrical and electronic appliances.

Note ⁽¹⁾ The components of this coating are mainly tin, and lead from 5 % to 50 %.

Remarks : The International Standard corresponding to this Standard is as follows.

ISO 7587 : 1986 *Electroplated coatings of tin-lead alloys—Specification and test methods*

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards indicated bellow shall be applied.

- JIS C 0024 *Basic environmental testing procedures Part 2 : Tests—Test Kb : salt mist, cyclic (Sodium chloride solution)*
- JIS C 0050 *Basic environmental testing procedures Part 2 : Tests Test T : Soldering*
- JIS H 0400 *Glossary of terms used in electroplating*
- JIS H 0404 *Graphical symbol for electroplated coating*
- JIS H 8501 *Methods of thickness test for metallic coatings*
- JIS H 8502 *Methods of corrosion resistance test for metallic coatings*
- JIS H 8504 *Methods of adhesion test for metallic coatings*
- JIS H 8620 *Electroplated coatings of gold and gold alloy for engineering purposes*
- JIS K 0119 *General rules for X-ray fluorescence spectrometric analysis*
- JIS Z 3282 *Soft solders—Chemical compositions and forms*
- JIS Z 3910 *Methods for chemical analysis of solder*
- JIS Z 9031 *Random sampling methods*

3 Definitions For the purposes of this Standard, the definitions in JIS H 0400 apply, and the rest of the terms are as follows.

- a) **significant surface** The surface of parts which was plated or to be plated, and whose coating is essential for performance and appearance.
- b) **reflowing** A process by which a coating is melted in order to impart desirable properties such as brightness or improved solderability.

Informative reference : The words, flow-melting, fusing, and flow-brightening, are synonymically used.

- c) **local thickness** The average of measurements carried out specified times on the reference area.
- d) **average thickness** The value calculated by analytical test method, or the average measurement obtained when specified times of measurements are uniformly distributed over the significant surface.
- e) **undercoat** A plated coating applied on the basis metal previously for the purpose of improving prevention of diffusion, solderability, corrosion resistance, adhesiveness, etc.

4 Class, Grade, symbol and service environment

4.1 Class and grade The coatings are classified into two classes as shown in Table 1 according to its composition, and they are classified into 7 grades depending on the minimum thickness of coating as shown in Table 2.

Table 1 Class of coatings

Unit : %

Class	Sn	Pb	Other elements
Class 1	70 or more	Remainder	1 max.
Class 2	50 incl. to 70 excl.	Remainder	1 max.