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International Standard



7587

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Electroplated coatings of tin-lead alloys — Specification and test methods

Dépôts électrolytiques d'alliage étain-plomb — Spécifications et méthodes d'essai

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7587 was prepared by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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0 Introduction

Tin-lead alloy coatings are used extensively in the telecommunications industry and their use has improved the integrity and reliability of soldered electrical circuits. Tin-lead alloy coatings are also known to be more resistant to whisker growth and allotropic change than pure tin.

Annex D gives additional information as guidance to the user.

It is essential that the purchaser should state the information itemized in 4.1 and, if appropriate, 4.2. Specifying ISO 7587 without this information is insufficient.

1 Scope and field of application

This International Standard specifies requirements for electroplated coatings of tin-lead alloy containing between 50 % (*m/m*) and 70 % (*m/m*) of tin (see 10.3). It may be used for tin-lead alloys of other compositions but the properties of such coatings may be different from those of the alloy range quoted.

A classification scheme is included by which the nature of the basis metal and the coating composition, within these limits, can be defined and which also contains provision for flow-melting and bright deposited coatings.

The coatings are intended for use on fabricated metal articles and on printed circuit boards.

It does not apply to

- a) threaded components;
- b) bearing overlays;
- c) coatings on sheet, strip or wire in unfabricated form, or of articles made from them;
- d) electroplating of steels with tensile strength greater than 1 000 MPa¹⁾ (or of corresponding hardness), because

such steels are subject to hydrogen embrittlement (see 8.2).

2 References

ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method.*

ISO 2064, *Metallic and other non-organic coatings — Definitions and conventions concerning the measurement of thickness.*

ISO 2177, *Metallic coatings — Measurement of coating thickness — Coulometric method by anodic dissolution.*

ISO 2819, *Metallic coatings on metallic substrates — Electrodeposited and chemically deposited coatings — Review of methods available for testing adhesion.*

ISO 2859, *Sampling procedures and tables for inspection by attributes.*²⁾

ISO 3497, *Metallic coatings — Measurements of coating thickness — X-ray spectrometric methods.*

ISO 3543, *Metallic and non-metallic coatings — Measurements of thickness — Beta backscatter method.*

ISO 3768, *Metallic coatings — Neutral salt spray test (NSS test).*

ISO 4519, *Electrodeposited metallic coatings and related finishes — Sampling procedures for inspection by attributes.*

ISO 6988, *Metallic and other non-organic coatings — Sulfur dioxide test with general condensation of moisture.*

IEC Publication 68-2-20, *Basic environmental testing procedures — Test T: Soldering.*

1) 1 MPa = 1 N/mm²

2) At present at the stage of draft. (Revision of ISO 2859-1974.)