
International Standard



2179

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Electroplated coatings of tin-nickel alloy — Specification and test methods

Dépôts électrolytiques d'alliage étain-nickel — 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 2179 was prepared by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*.

This second edition cancels and replaces the first edition (ISO 2179-1972), of which it constitutes a technical revision.

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.

Electroplated coatings of tin-nickel alloy — Specification and test methods

0 Introduction

This International Standard specifies requirements for electroplated coatings of the intermetallic compound SnNi of the approximate composition 65 % (m/m) tin and 35 % (m/m) nickel. Such coatings are generally recognized as being hard, wear-resistant and corrosion resistant.

The coatings are intended for use on both ferrous and non-ferrous basis metals and also on printed circuit boards. A classification scheme is included by which the nature of the basis metal and undercoat, if any, and the coating thickness can be defined.

Annex B 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 2179 without this information is insufficient.

1 Scope and field of application

This International Standard specifies requirements for electroplated coatings of the intermetallic compound SnNi, with a composition of approximately 65 % (m/m) tin and 35 % (m/m) nickel.

It does not apply to

- a) threaded components;
- b) coatings on sheet, strip or wire in the unfabricated form, or on articles made from them;
- c) coatings on coil springs;
- 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).

1) 1 MPa = 1 N/mm²

2) At present at the stage of draft.

2 References

ISO 1462, *Metallic coatings — Coatings other than those anodic to the basis metal — Accelerated corrosion tests — Method for the evaluation of the results.*

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 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.*

3 Definition

significant surface: The part of the article covered or to be covered by the coating and for which the coating is essential for serviceability and/or appearance.

(Definition taken from ISO 2064.)