

# INTERNATIONAL STANDARD

# ISO 1463

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## **Metallic and oxide coatings — Measurement of coating thickness — Microscopical method**

*Revêtements métalliques et couches d'oxyde — Mesurage de  
l'épaisseur de revêtement — Méthode par coupe micrographique*



Reference number  
ISO 1463:2003(E)

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 1463 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 2, *Test methods*.

This third edition cancels and replaces the second edition (ISO 1463:1982), which has been technically revised.

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# Metallic and oxide coatings — Measurement of coating thickness — Microscopical method

## 1 Scope

This International Standard describes a method for the measurement of the local thickness of metallic coatings, oxide layers, and porcelain or vitreous enamel coatings, by the microscopical examination of cross-sections using an optical microscope.

**WARNING** — The use of this document may involve the use of hazardous materials, operations and equipment. This document does not address any health hazard and safety issues associated with its use. It is the responsibility of the user to establish appropriate health and safety practices and to take suitable action to comply with any national and/or local regulations prior to its use.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2064, *Metallic and other inorganic coatings — Definitions and conventions concerning the measurement of thickness*

## 3 Term and definition

For the purposes of this document the following term and definition apply.

### 3.1

#### **local thickness**

the mean of the thickness measurements, of which a specified number is made within a reference area

[3.4 of ISO 2064:1996]

## 4 Principle

A portion of the test specimen is cut out and mounted. The mounted cross-section is prepared by suitable techniques of grinding, polishing and etching. The thickness of the coating cross-section is measured by means of a calibrated scale.

**NOTE** These techniques will be familiar to experienced metallographers, but some guidance is given in Clause 5 and in Annex A for less experienced operators.