



**SLOVENSKI STANDARD**  
**SIST EN ISO 2808:1999**

**01-december-1999**

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**Barve in laki - Ugotavljanje debeline plasti (ISO 2808:1997)**

Paints and varnishes - Determination of film thickness (ISO 2808:1997)

Beschichtungsstoffe - Bestimmung der Schichtdicke (ISO 2808:1997)

Peintures et vernis - Détermination de l'épaisseur du feuil (ISO 2808:1997)

**Ta slovenski standard je istoveten z: EN ISO 2808:1999**

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**ICS:**

87.040

Barve in laki

Paints and varnishes

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**en**

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ICS 87.040

English version

Paints and varnishes - Determination of film thickness (ISO  
2808:1997)

Peintures et vernis - Détermination de l'épaisseur du feuil  
(ISO 2808:1997)

Beschichtungsstoffe - Bestimmung der Schichtdicke (ISO  
2808:1997)

This European Standard was approved by CEN on 25 June 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

### **Foreword**

The text of the International Standard from Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 139 "Paints and varnishes", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

### **Endorsement notice**

The text of the International Standard ISO 2808:1997 has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA (normative)**  
**Normative references to international publications**  
**with their relevant European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 1463	1982	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method	EN ISO 1463	1994
ISO 1514	1993	Paints and varnishes - Standard panels for testing	EN ISO 1514	1997
ISO 2178	1982	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method	EN ISO 2178	1995
ISO 2360	1982	Non-conductive coatings on non-magnetic basis metals - Measurement of coating thickness - Eddy current method	EN ISO 2360	1995
ISO 3543	1981	Metallic and non-metallic coatings - Measurement of thickness - Beta backscatter method	EN ISO 3543	1994
ISO 4518	1980	Metallic coatings - Measurement of coating thickness - Profilometric method	EN ISO 4518	1995
ISO 8503-1	1988	Preparation of steel substrates before application of paints and related products - Surface roughness characteristics of blast-cleaned steel substrates - Part 1: Specifications and definitions for ISO surface profile comparators for the assessment of abrasive blast-cleaned surfaces	EN ISO 8503-1	1995

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# INTERNATIONAL STANDARD

**ISO  
2808**

Third edition  
1997-09-15

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## **Paints and varnishes — Determination of film thickness**

*Peintures et vernis — Détermination de l'épaisseur du feuil*

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Reference number  
ISO 2808:1997(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.

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.

International Standard ISO 2808 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This third edition cancels and replaces the second edition (ISO 2808:1991) of which it constitutes a technical revision.

The main technical changes are:

- a) Addition of the following methods of film thickness determination:
  - 1) Gravimetric (dissolving) method (Method 9)
  - 2) Determination of dry-film thickness on blast-cleaned steel substrates (Method 10).
- b) Table 1 includes typical instrument bias and precision for each method.

Annex A forms an integral part of this International Standard.

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# Paints and varnishes — Determination of film thickness

## 1 Scope

This International Standard reviews and specifies a number of methods that are applicable to the measurement of the thickness of organic coatings applied to a substrate. It does not apply to metallic coatings. Some of the techniques described can be adapted for the measurement of the thickness of detached coatings. The principles of the methods, their particular field of application and the expected precision are given in table 1.

This International Standard also defines terms concerning the determination of film thickness.

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**Table 1 - Methods of film thickness measurement**

Note 1: Many of the methods referred to below may be adapted for use with detached films.

Number and description	Techniques and applications	Typical instrument bias <sup>1)</sup> and precision	Remarks
Method No. 1	<p><b>iTeh STANDARD PREVIEW</b>                      A Comb gauge                      (standards.iteh.ai)</p>	-----	Measurements give an approximate indication of the thickness of the wet film.
Assessment of wet-film thickness	<p><b>B Wheel gauge</b> <small>ISO 2808:1999</small>  <a href="https://standards.iteh.ai/catalog/standards/sist/6be82170-7e17-4f6c-bbdd-765a4729c128/sist-6b-iso-2808-1999">https://standards.iteh.ai/catalog/standards/sist/6be82170-7e17-4f6c-bbdd-765a4729c128/sist-6b-iso-2808-1999</a>                      C By weighing                      For measurement of wet-film thickness of freshly painted surfaces.</p>	<p>Bias: <math>\pm 2,5\% + 1\ \mu\text{m}</math>                      Reproducibility: <math>\pm 15\ \mu\text{m}</math></p>	<p>May be used in laboratories and on site.                      Method 1C may also be used for determining the dry-film thickness, but in the laboratory only.</p>
Method No. 2	<p>For use on films too soft to be measured by methods which use a presser foot or probe.</p>	Determinations are not precise	<p>Provides a check that the mean thickness lies between specified limits. The film remains undamaged.</p>
<p>Determination of dry-film thickness by calculation from the ratio of dry-film mass to dry-film area</p>			

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### Method No. 3

Measurement of dry-film thickness by mechanically contacting instruments

**A** Micrometer method. For use on test panels or painted surfaces that are substantially plane.

**Bias:**  $\pm 2 \mu\text{m}$

**Reproducibility:**  $\pm 30\%$  for low and  $20\%$  for higher film thicknesses

The film has to be hard enough to resist indentation on closing the micrometer jaws. The film is damaged in the test. The film thickness shall be greater than  $25 \mu\text{m}$  unless the film is detached.

**B** Dial gauge method

Test panels or painted surfaces that are substantially plane or have a curvature in one direction

**Reproducibility:**  $\pm 10\%$ , with a lower limit of  $2 \mu\text{m}$

The film has to be hard enough to resist indentation on lowering the gauge or electric-device presser foot.

### Method No. 4

Measurement of dry-film thickness by the profilometric method

Recommended as a referee method for painted surfaces that are substantially plane.

**Reproducibility:**  $\pm 10\%$ , with a lower limit of  $2 \mu\text{m}$

The film has to be hard enough to resist indentation by the profile-tracing stylus. The film is damaged in the test.