



SLOVENSKI STANDARD

SIST EN ISO 12137-2:2006

01-oktober-2006

Barve in laki – Ugotavljanje odpornosti proti praskam – 2. del: Metoda z uporabo ostro ošiljenega praskala (ISO 12137-2:1997)

Paints and varnishes - Determination of mar resistance - Part 2: Method using a pointed stylus (ISO 12137-2:1997)

Beschichtungsstoffe - Bestimmung der Kratzfestigkeit - Teil 2: Verfahren mit spitzem Stichel (ISO 12137-2:1997) **(standards.iteh.ai)**

Peintures et vernis - Détermination de la résistance à la détérioration - Partie 2: Méthode utilisant un stylet pointu (ISO 12137-2:1997)

Ta slovenski standard je istoveten z: EN ISO 12137-2:2006

ICS:

87.040

Barve in laki

Paints and varnishes

SIST EN ISO 12137-2:2006

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 12137-2

June 2006

ICS 87.040

English Version

**Paints and varnishes - Determination of mar resistance - Part 2:
Method using a pointed stylus (ISO 12137-2:1997)**

Peintures et vernis - Détermination de la résistance à la
détérioration - Partie 2: Méthode utilisant un stylet pointu
(ISO 12137-2:1997)

Beschichtungsstoffe - Bestimmung der Kratzfestigkeit - Teil
2: Verfahren mit spitzem Stichel (ISO 12137-2:1997)

This European Standard was approved by CEN on 19 May 2006.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 12137-2:2006 (E)**Foreword**

The text of ISO 12137-2:1997 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 12137-2:2006 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 December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

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

Endorsement notice
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The text of ISO 12137-2:1997 has been approved by CEN as EN ISO 12137-2:2006 without any modifications.

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INTERNATIONAL STANDARD

ISO
12137-2

First edition
1997-02-15

Paints and varnishes — Determination of mar resistance —

Part 2: Method using a pointed stylus

SIST EN ISO 12137-2:2006
Peinture et vernis — Détermination de la résistance à la détérioration —
Partie 2: Méthode utilisant un stylet pointu



Reference number
ISO 12137-2:1997(E)

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 12137-2 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

ISO 12137 consists of the following parts, under the general title *Paints and varnishes — Determination of mar resistance*:

- Part 1: *Method using a curved stylus*
- Part 2: *Method using a pointed stylus*

Annex A forms an integral part of this part of ISO 12137. Annex B is for information only.

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Paints and varnishes — Determination of mar resistance —

Part 2: Method using a pointed stylus

1 Scope

1.1 This part of ISO 12137 is one of a series of standards dealing with the sampling and testing of paints, varnishes and related products.

It specifies a method for determining, using a pointed stylus, the mar resistance of a single coating of a paint, varnish or related product, or the upper layer of a multicoat system. Part 1 of ISO 12137 specifies a method using a curved stylus. The choice between the two methods will depend on the particular practical problem.

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1.2 This test has been found to be useful in comparing the mar resistance of different coatings. It is most useful in providing relative ratings for a series of coated panels exhibiting significant differences in mar resistance.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 12137. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 12137 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1512:1991, *Paints and varnishes — Sampling of products in liquid or paste form.*

ISO 1513:1992, *Paints and varnishes — Examination and preparation of samples for testing.*

ISO 1514:1993, *Paints and varnishes — Standard panels for testing.*

ISO 2808:—¹⁾, *Paints and varnishes — Determination of film thickness.*

¹⁾ To be published. (Revision of ISO 2808:1991)

3 Definition

For the purposes of this part of ISO 12137, the following definition applies:

3.1 mar resistance: The resistance of the surface of a paint film to marking or the formation of other defects as a result of the action of a specified stylus pushed across the surface.

Marring covers a very broad range of defects in the surface of the paint film. These defects include small scratches and other marks in the surface of the paint film caused by finger nails or car wash brushes, for instance.

The defects are defined as follows:

- a) Plastic deformation — the permanent indentation of the surface with or without any surface blemish or cohesive fracture.
- b) Surface blemish — a superficial surface effect caused by a difference in the scattering of light between the line of test and the adjacent surface.
- c) Surface scratch — a continuous cut or gouge through the surface.
- d) Cohesive fracture — the presence of a visible surface break or rupture.
- e) Combinations of the above.

NOTE — In some cases, one of these types of defect will be of particular importance, while in other cases one of the other types of defect may be of interest.

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4 Principle

The product or system under test is applied at uniform thickness to flat panels of uniform surface texture. After drying/curing, the mar resistance is determined using an automatic tester which pushes the panels beneath a pointed stylus mounted so that it presses down perpendicularly on the surface of the test panel. The load on the test panel is increased continuously until the coating is marred.

5 Required supplementary information

For any particular application, the test method specified in this part of ISO 12137 needs to be completed by supplementary information. The items of supplementary information are given in annex A.

6 Apparatus

6.1 A suitable tester²⁾ is shown in figure 1. It consists principally of a counterbalanced beam with, mounted at one end, a pointed stylus. The test panel is placed on a sliding table which is motor-driven to move under the stylus at a speed of 600 mm/min. A continuous-loading weight mounted over the beam acts on the beam in such a way that, as the test panel passes under the stylus, the load on the stylus is continuously increased. The stylus-loading range can be varied by changing the continuous-loading weight (weights giving loading ranges of 0 to 50 g, 0 to 100 g

2) This apparatus is available from Shinton Scientific Ltd, 27 Higashi Konya-cho, Kanda, Chigoda-ku, Tokyo 101, Japan.

This information is given for the convenience of users of this part of ISO 12137 and does not constitute endorsement by ISO of the apparatus shown. Other types of scratch tester may be used if they can be shown to give similar relative ratings.

and 0 to 200 g are available, for instance). Mounted over the stylus itself is a small scale pan on which weights can be placed to expand the stylus-loading range (adding a weight of 100 g, for instance, changes a 0 to 200 g loading range to one of 100 g to 300 g).

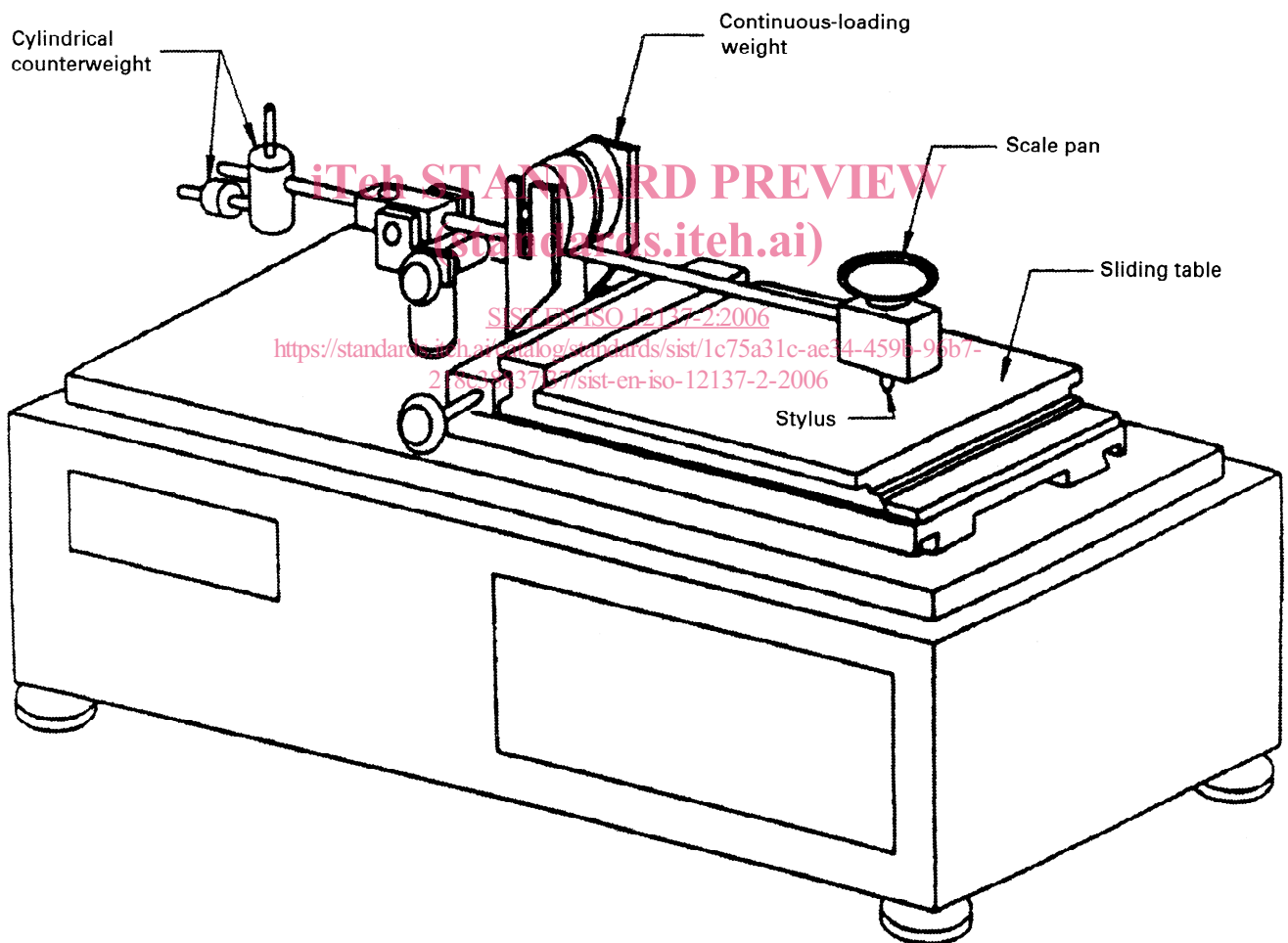


Figure 1 — Scratch tester with pointed stylus