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Värvid ja lakid - Pragunemiskindluse katse

Paints and varnishes - Cupping test

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 1520:2007 sisaldab Euroopa standardi EN ISO 1520:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 29.01.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 1520:2007 consists of the English text of the European standard EN ISO 1520:2006. This document is endorsed on 29.01.2007 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: Standard määrab kindlaks empiirilise katsemeetodi värvi, laki või nendega seotud materjali vastupidavuse määramiseks pragunemisele ja/või eraldumisele metallipinnalt, kui seda standardtingimustel indentori abil järk-järgult deformeeritakse.	**Scope:** This International Standard specifies an empirical test procedure for assessing the resistance of a coating of paint, varnish or related product to cracking and/or detachment from a metal substrate when subjected to gradual deformation by indentation under standard conditions (see 7.1). For a multi-coat system, each coat may be tested separately or the complete system may be tested.

ICS 87.040

Võtmesõnad: katsed, lakid, plastsuskatse, värvid

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EUROPEAN STANDARD

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English Version

Paints and varnishes - Cupping test (ISO 1520:2006)

Peintures et vernis - Essai d'emboutissage (ISO 1520:2006)

Beschichtungsstoffe - Tiefungsprüfung (ISO 1520:2006)

This European Standard was approved by CEN on 25 October 2006.

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Foreword

This document (EN ISO 1520:2006) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with 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of an identical text or by endorsement, at the latest by May 2007, and conflicting national standards shall be withdrawn at the latest by May 2007.

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

The text of ISO 1520:2006 has been approved by CEN as EN ISO 1520:2006 without any modifications.

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INTERNATIONAL STANDARD

ISO 1520

Third edition
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Paints and varnishes — Cupping test

Peintures et vernis — Essai d'emboutissage

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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 1520 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 1520:1999), which has been technically revised. The main changes are:

— the determination is carried out in duplicate instead of triplicate;

— precision data have been added;

— the text has been editorially revised and the normative references have been reviewed.

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Introduction

This International Standard is one of six standards which specify empirical test procedures for assessing the resistance of coatings of paints, varnishes and related products to cracking and/or detachment from the substrate under different conditions of deformation.

The other standards are:

ISO 1519, *Paints and varnishes — Bend test (cylindrical mandrel)*

ISO 6272-1, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 1: Falling-weight test, large-area indenter*

ISO 6272-2, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 2: Falling-weight test, small-area indenter*

ISO 6860, *Paints and varnishes — Bend test (conical mandrel)*

ISO 17132, *Paints and varnishes — T-bend test*

The method to be chosen depends on the property which has to be measured. In principle, all these tests differ technically from each other and differ in accuracy.

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Paints and varnishes — Cupping test

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1 Scope

This International Standard specifies an empirical method for assessing the resistance of a coating of paint, varnish or related product to cracking and/or detachment from a metal substrate when subjected to gradual deformation by indentation under standard conditions (see 7.1).

For a multi-coat system, each coat may be tested separately or the complete system may be tested.

The method may be carried out as follows:

— either as a “pass/fail” test, by testing to a specified depth of indentation to assess compliance with a particular requirement;

— or by gradually increasing the depth of indentation to determine the minimum depth at which the coating cracks and/or becomes detached from the substrate.

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 1513, *Paints and varnishes — Examination and preparation of samples for testing*

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

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Principle

The product or system under test is applied at uniform thickness to flat panels of uniform surface texture.

After drying/curing, the elastic properties of the paint film are determined by first placing the coated panel between two rings, namely the retaining ring and the drawing die. The panel is then pushed by a hemispherical indenter at a steady rate into the die so as to form a dome shape with the coating on the outside.

The deformation is increased either to a depth agreed between the interested parties or until the coating cracks and/or detaches from the substrate, and the result is then assessed.

4 Apparatus

4.1 Cupping test apparatus, which conforms to the design and dimensions shown in Figure 1 and consists essentially of the following components:

4.1.1 Drawing die, made of surface-hardened steel and of which the surface in contact with the test panel is plane-polished.

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