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# Värvid ja lakid - Pragunemiskindluse katse

Paints and varnishes - Cupping test

**EESTI STANDARDI EESSÕNA** **NATIONAL FOREWORD**

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| Käesolev Eesti standard EVS-EN ISO 1520:2002 sisaldab Euroopa standardi EN ISO 1520:2001 ingliskeelset teksti.<br><br>Käesolev dokument on jõustatud 16.01.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.<br><br>Standard on kättesaadav Eesti standardiorganisatsioonist. | This Estonian standard EVS-EN ISO 1520:2002 consists of the English text of the European standard EN ISO 1520:2001.<br><br>This document is endorsed on 16.01.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.<br><br>The standard is available from Estonian standardisation organisation. |

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| **Käsitlusala:**<br>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:** |

**ICS** 87.040

**Võtmesõnad:** katsed, lakid, plastsuskatse, värvid

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Standardite reprodutseerimis- ja levitamisõigus kuulub Eesti Standardikeskusele

# EUROPEAN STANDARD
# NORME EUROPÉENNE
# EUROPÄISCHE NORM

EN ISO 1520

May 2001

ICS 87.040

Supersedes EN ISO 1520 : 1995.

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**English version**

## Paints and varnishes

Cupping test
(ISO 1520 : 1999)

Peintures et vernis – Essai d'emboutissage (ISO 1520 : 1999)

Beschichtungsstoffe – Tiefungsprüfung (ISO 1520 : 1999)

This European Standard was approved by CEN on 2001-03-07.

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# CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Ref. No. EN ISO 1520 : 2001 E

## Foreword

International Standard

ISO 1520 : 1999 Paints and varnishes – Cupping test,

which was prepared by ISO/TC 35 'Paints and varnishes' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 139 'Paints and varnishes', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by November 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 1520 : 1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

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## Contents



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## Introduction

This International Standard is one of four 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 three documents are:

ISO 1519:1973, *Paints and varnishes — Bend test (cylindrical mandrel)*;

ISO 6272:1993, *Paints and varnishes — Falling-weight test*;

ISO 6860:1984, *Paints and varnishes — Bend test (conical mandrel)*.

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

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## 1 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.

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

The method specified may be carried out

— 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 standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 1513:1991, *Paints and varnishes — Examination and preparation of samples for testing.*

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

ISO 2808:1997, *Paints and varnishes — Determination of film thickness.*

ISO 3270:1984, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing.*

## 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 test piece so as to form a dome shape with the coating on the outside.

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

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