Road and airfield surface characteristics - Test methods - Part 1: Measurement of pavement surface macrotexture depth using a volumetric patch technique

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13036-1:2002 sisaldab Euroopa standardi EN 13036-1:2001 ingliskeelset teksti. Käesolev dokument on jõustatud 16.01.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13036-1:2002 consists of the English text of the European standard EN 13036-1:2001. This document is endorsed on 16.01.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies a method for determining the average depth of pavement surface macrotexture by careful application of a known volume of material on the surface and subsequent measurement of the total area covered. The technique is designed to provide an average depth value of only pavement macrotexture and is considered insensitive to pavement characteristics.	**Scope:** This European Standard specifies a method for determining the average depth of pavement surface macrotexture by careful application of a known volume of material on the surface and subsequent measurement of the total area covered. The technique is designed to provide an average depth value of only pavement macrotexture and is considered insensitive to pavement characteristics.

ICS 17.040.20, 93.080.20

Võtmesõnad: appointments, area, circulation and space system, construction materials, definition, definitions, layers, measuring techniques, pavements, pavements (roads), properties, road construction, road superstructure, roads, surface layers, surfaces, testing, texture

EUROPEAN STANDARD

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English version

Road and airfield surface characteristics - Test methods - Part 1: Measurement of pavement surface macrotexture depth using a volumetric patch technique

Caractéristiques de surface des routes et aéroports - Méthodes d'essai - Partie 1: Mesurage de la profondeur de macrotexture de la surface d'un revêtement à l'aide d'une technique volumétrique à la tache

Oberflächeneigenschaften von Straßen und Flugplätzen - Prüfverfahren - Teil 1: Messung der Makrotexturtiefe der Fahrbahnoberfläche mit Hilfe eines volumetrischen Verfahrens

This European Standard was approved by CEN on 4 October 2000.

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 Management Centre 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 Management Centre 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.

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 227 "Road materials", 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 November 2001, and conflicting national standards shall be withdrawn at the latest by November 2001.

This European Standard is one of a series of standards as listed below:

EN 13036-1, *Road and airfield surface characteristics — Test methods — Part 1: Measurement of pavement surface macrotexture depth using a volumetric patch technique*.

00227174-2, *Pavement surface characteristics — Test methods — Part 2: Measurement of megatexture using a profile metric technique*.

prEN 13036-3, *Road and airfield surface characteristics — Test methods — Part 3: Measurement of pavement surface horizontal drainability*.

prEN 13036-4, *Road and airfield surface characteristics — Test methods — Part 4: Method of measurement of skid resistance of a surface — The pendulum test*.

prEN 13036-5, *Road and airfield surface characteristics — Test methods — Part 5: Measurement of friction using dynamic systems — Determination of a European Friction Index*.

prEN 13036-6, *Road and airfield surface characteristics — Test methods — Part 6: Measurement of the influence of road surfaces on the traffic noise — The statistical pass-by method*.

prEN 13036-7, *Road and airfield surface characteristics — Test methods — Part 7: Single irregularity measurement of pavement surface courses — The straightedge test*.

prEN 13036-8, *Road and airfield surface characteristics — Test methods — Part 8: Measurement of the influence of road surfaces on traffic noise — The close proximity method.*

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.

Introduction

This European Standard has been written in accordance with annex A of ISO 10844:1994.

The so-called "sand-patch method" has been used worldwide for many years to measure the road surface texture.

It relies on a given volume of sand which is spread out on a road surface. The sand is distributed to form a circular patch, the diameter of which is measured. By dividing the volume of sand with the area covered, a value is obtained which represents the average depth of the sand layer, i. e. an average "texture depth". The method is described in [2] of the Bibliography, but the procedure has been described and used even earlier.

However, a development of the sand-patch method, replacing sand with glass spheres, has been described in ASTM E 965-87 (see [1] of the Bibliography).

The method in this European Standard is largely based on ASTM E 965-87. However, a number of changes have been made, for example the use of only metric units and the avoidance of making references to other ASTM standards. Also, the layout has been adapted to the normal layout for European Standards.

The selection of the ASTM standard rather than the procedure described in BS 812-114 (see [3] of the Bibliography) is based on the fact the ASTM standard uses a material with closer specifications and that the ASTM standard is far more precise in its description of the test method.

1 Scope

This European Standard specifies a method for determining the average depth of pavement surface macrotexture by careful application of a known volume of material on the surface and subsequent measurement of the total area covered. The technique is designed to provide an average depth value of only the pavement macrotexture and is considered insensitive to pavement microtexture characteristics.

This test method is suitable for field tests to determine the average macrotexture depth of a pavement surface. When used in conjunction with other physical tests, the macrotexture depth values derived from this test method can be used to determine the pavement skid resistance capability, noise characteristics and the suitability of paving materials or finishing techniques. When used with other tests, care should be taken that all tests are applied at the same location.

2 Normative references

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 (including amendments).

ISO 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings.*

3 Test method

The standard materials and test apparatus consist of a quantity of uniform material, a container of known volume, a suitable wind screen or shield, brushes for cleaning the surface, a flat disc for spreading the material on the surface, and a ruler or other measuring device for determining the area covered by the material. A laboratory balance is also recommended to ensure consistent amounts for each measurement sample.