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English Version

Road and airfield surface characteristics - Part 3: Procedure for determining the skid resistance of a pavement surface using a device with longitudinal controlled slip (LFCA): The ADHERA

Caractéristiques de surface des routes et aéroports - Partie 3 : Mode opératoire de détermination de l'adhérence d'un revêtement de chaussée à l'aide d'un dispositif à frottement longitudinal contrôlé (CFLA): l'ADHERA

Oberflächeneigenschaften von Straßen und Flugplätzen - Teil 3: Verfahren zur Bestimmung der Griffigkeit von Fahrbahndecken durch Verwendung eines Geräts mit geregeltem Schlupf in Längsrichtung (LFCA): das ADHERA-Gerät

This Technical Specification (CEN/TS) was approved by CEN on 27 June 2009 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 15901-3:2009) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by DIN.

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1 Scope

This Technical Specification describes a method for determining the skid resistance of pavements by measurement of the longitudinal friction coefficient LFCA.

The method provides a measure of the wet skid resistance properties of a bound surface by measurement of the longitudinal friction coefficient using a locked wheel trailer with a slip ratio of 100 % (locked wheel: standard), or a variable slip between 0 % to 100 % (for research measurements). Within this method the steady-state friction on a braked test wheel is measured.

The test tyre is dragged over a pre-wetted pavement under controlled load and constant speed conditions while the test tyre is parallel to the direction of motion and perpendicular to the pavement.

This technical specification covers the operation of the ADHERA device.

NOTE The research measurements are not yet measured by all the ADHERA but with only one called “ADHERA research”.

In addition to friction measurements, to determine the macrotexture of the pavement surface a laser system is used (mlpc device named RUGO). This system is placed just before the test wheel in order to measure the macrotexture (mean profile depth – MPD) on dry pavements and on the same path as the skid resistance measurement is done. The standard for this measurement and the device is described in EN ISO 13473-1.

The skid resistance of a pavement is determined by friction measurements and measurements of pavement texture. The skid resistance may be reported either as friction measurement or as a combination of friction and texture measurements.

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.

EN ISO 13473-1, *Characterization of pavement texture by use of surface profiles – Part 1: Determination of Mean Profile Depth (ISO 13473-1:1997)*

ISO 13473-2, *Characterization of pavement texture by use of surface profiles – Part 2: Terminology and basic requirements related to pavement texture profile analysis*

3 Recommended uses

The ADHERA is used in the following fields of application:

— monitoring of networks (Pavement Management);

— approval of new surfacing;

— investigation of surface skid resistance;

— measurements on project-level compliance;

— comparative measurements among different devices;

— research measurements.