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English Version

Road and airfield surface characteristics - Part 11: Procedure for determining the skid resistance of a pavement surface using a device with longitudinal block measurement (LFCSR): the SRM

Caractéristiques de surface des revêtements de chaussée des routes et des aérodromes - Partie 11: Mode opératoire de détermination de l'adhérence de la surface d'un revêtement de chaussée à l'aide d'un dispositif de mesure longitudinale, roue bloquée (CFLSR): le SRM

Oberflächeneigenschaften von Straßen und Flugplätzen - Teil 11: Verfahren zur Bestimmung der Griffigkeit von Fahrbahndecken durch Messung des Gleitbeiwertes (LFCSR) am blockierten Schlepprad: das SRM-Messgerät

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Foreword

This document (CEN/TS 15901-11:2011) 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 paved surface by measurement of the longitudinal friction coefficient μ_{SRM}

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 with a slip ratio of 0 % (locked wheel: standard), or a slip ratio of (15 ± 1) % or ABS and a controlled speed. 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 to the pavement.

This document covers the operation of the Stuttgarter Reibungsmesser (SRM) of the IVT ETH Zürich.

2 Recommended uses

This method provides a means for the evaluation of the skid resistance of a road surface. It is suitable for use in the following situations:

— For measurement of road in service, either network monitoring for pavement management, or measurements on project-level;

— approval of new or renewed pavements;

— research measurements;

— special measurements with separately defined measuring method in winter conditions (ice, snow, frost).

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
friction
resistance to relative motion between two bodies in contact

NOTE The frictional force is the force which acts tangentially in the contact area.

3.2
skid resistance
characterisation of the friction of a road surface when measured in accordance with a standardised method

3.3
wet road skid resistance
property of a trafficked surface that limits relative movement between the surface and the part of a vehicle tyre in contact with the surface, when lubricated with a film of water

NOTE Factors that contribute to skid resistance include the tyre pressure, contact area, tread pattern, and rubber composition; the alignment, texture, surface contamination, and characteristics of the road surface; the vehicle speed; and the weather conditions.

The skid resistance of a road surface in Europe varies seasonally. Generally, wet skid resistance is higher in winter as a result of the effects of wet detritus and the effects of frost and wear by tyres on microtexture and macrotexture. Wet skid resistance is lower in summer as a result of dry polishing by tyres in the presence of fine detritus.

The change in skid resistance of a surface in service is affected by the volume of traffic and the composition of the traffic, i.e. cars, buses, commercial vehicles of different sizes, as the tyres of these vehicles polish and/or wear away the