

English Version

**Road and airfield surface characteristics - Part 9: Procedure for
determining the skid resistance of a pavement surface by
measurement of the longitudinal friction coefficient (LFCD):
DWWNL skid resistance trailer**

Caractéristiques de surface des routes et aéroports - Partie
9 : Mode opératoire de détermination de l'adhérence d'un
revêtement de chaussée en procédant au mesurage du
coefficient de frottement longitudinal (CFLD) : la remorque
d'adhérence DWW NL

Oberflächeneigenschaften von Straßen und Flugplätzen -
Teil 9: Verfahren zur Bestimmung der Griffigkeit von
Fahrbahndecken durch Messung des
Reibungskoeffizienten in Längsrichtung (LFCD): das
DWW/NL-Griffigkeitsmessgerät (Anhänger)

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

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Foreword

This document (CEN/TS 15901-9:2009) 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 wet-road skid resistance of a surface by measuring the LFCD.

The method provides a measure of the wet-road skid resistance properties of a bound surface by measurement of the longitudinal friction coefficient at a fixed slip ratio of 86 % and at a controlled speed. The method has been developed for use on roads, but is also applicable to other paved areas such as airports.

This Technical Specification covers the following proprietary devices:

RWS_{NL} skid resistance trailer device, which has been developed by the Rijkswaterstaat in the Netherlands. The device uses a standard PIARC smooth test tyre being dragged over a pre-wetted pavement under controlled speed conditions while its running direction is parallel to the direction of motion and perpendicular to the pavement. Several RWS skid resistance trailer devices have been manufactured under license and operate in combination with variable towing vehicles.

2 Fields of application

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

- routine measurements of a road in service, either network monitoring for Pavement Management, or measurements on project-level;
- approval of new works;
- research measurements.

3 Terms and definitions

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

3.1

skid resistance

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

3.2

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 surfacing material in different ways. The geometry of the road will affect the change in skid resistance. Generally, tyres polish less on straight roads than on bends.