



BSI Standards Publication

# Winter maintenance equipment — Road weather information systems

Part 4: Test methods for  
stationary equipment

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

### National foreword

This Published Document is the UK implementation of CEN/TS 15518-4:2013.

The UK participation in its preparation was entrusted to Technical Committee B/513, Construction equipment and plant and site safety.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2013

Published by BSI Standards Limited 2013

ISBN 978 0 580 77795 0

ICS 07.060; 13.030.40; 35.240.99

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 March 2013.

### Amendments issued since publication

Amd. No.	Date	Text affected
----------	------	---------------

---

TECHNICAL SPECIFICATION  
 SPÉCIFICATION TECHNIQUE  
 TECHNISCHE SPEZIFIKATION

**CEN/TS 15518-4**

March 2013

ICS 07.060; 13.030.40; 35.240.99

English Version

**Winter maintenance equipment - Road weather information systems - Part 4: Test methods for stationary equipment**

Matériel de viabilité hivernale - Systèmes d'information météorologique routière - Partie 4 : Méthodes d'essai pour les matériels fixes

Winterdienstausrüstung - Straßenstands- und Wetterinformationssysteme - Teil 4: Prüfverfahren bei stationären Einrichtungen

This Technical Specification (CEN/TS) was approved by CEN on 30 July 2012 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.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

<b>Contents</b>		Page
Foreword.....		3
Introduction .....		4
<b>1</b> <b>Scope.....</b>		<b>5</b>
<b>2</b> <b>Normative references.....</b>		<b>5</b>
<b>3</b> <b>Type reception test definition.....</b>		<b>5</b>
3.1    Introduction .....		5
3.2    Pavement surface temperature .....		6
3.3    Road surface condition.....		10
3.4    Water film thickness .....		16
3.5    Freezing temperature.....		17
3.6    Road body temperature .....		21
3.7    Air temperature .....		21
3.8    Relative humidity .....		23
3.9    Dew point temperature.....		25
3.10   Precipitation detection time.....		25
3.11   Precipitation type .....		26
3.12   Precipitation intensity .....		27
3.13   Snow depth.....		28
3.14   Wind speed.....		28
3.15   Gust of wind .....		29
3.16   Wind direction .....		29
3.17   Visibility .....		31
Bibliography.....		33

## Foreword

This document (CEN/TS 15518-4:2013) has been prepared by Technical Committee CEN/TC 337 “Winter maintenance and road service area maintenance equipment”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document *Winter maintenance equipment — Road weather information systems* comprises of the following parts:

- *Part 1: Global definitions and components;*
- *Part 2: Road weather — Recommended observation and forecast;*
- *Part 3: Requirements on measured values of stationary equipments;*
- *Part 4: Test methods for stationary equipment* (the present document)

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

Road Weather Information Systems (RWIS) are complex structures used for road maintenance decision support, which feature as a rule the following components: meteorological sensors and instruments, transmission technology, computer systems for processing, representation and storing of information, road weather forecasts, alarms, in relation to traffic control and traffic information systems and more.

This European Specification lays down the test procedures to verify the requirements on stationary equipment defined in EN 15518-3.

The aim is to allow for objective and reproducible measurement analysis and evaluation.

## 1 Scope

This Technical Specification specifies the test methods, the experimental set-up and result analysis for the laboratory qualification of stationary equipment within a RWIS.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13108-5, *Bituminous mixtures — Material specifications — Part 5: Stone Mastic Asphalt*

EN 15518-3, *Winter maintenance equipment — Road weather information systems — Part 3: Requirements on measured values of stationary equipments*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

ISO 17714, *Meteorology — Air temperature measurements — Test methods for comparing the performance of thermometer shields/screens and defining important characteristics*

## 3 Type reception test definition

### 3.1 Introduction

#### 3.1.1 General

The tests described hereafter apply to either a complete system (which can influence the measured value) consisting of sensor, processing electronics and associated terminal program software necessary to acquire, display and store the measurements in a digital form, or to some specific parts of the whole system when the inputs can be simulated, as specified by the manufacturer. Figure 1 below is an illustration of the possible functional components of a system.

The manufacturer shall specify and supply in detail the material set-up for the test set-up.

The manufacturer may not change the test set-up during the tests. The data shall be readable during the whole test. The whole test shall stop in case the manufacturer changes the test set-up.

If a single sensor provides measurements subject to more than one test procedure, it shall always be tested against all these procedures within the same test campaign and by the same laboratory. This is also valid for tests after technical changes to a sensor.

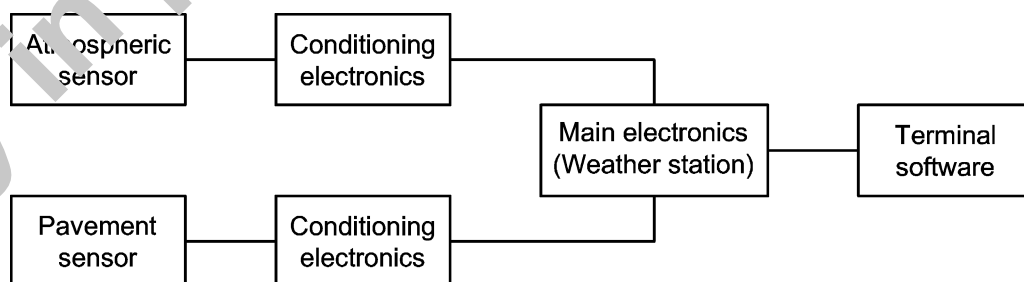


Figure 1 — Possible functional components of a system

Test protocols shall state the version and type of hardware, firmware and software components as well as the material set-up during the test.