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NSAI Standards

Irish Standard
I.S. EN 12966-1:2005+A1:2009

Road vertical signs - Variable message traffic signs - Part 1: Product standard

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W **NSAI.ie**

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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EUROPEAN STANDARD

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EN 12966-1:2005+A1

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English Version

Road vertical signs - Variable message traffic signs - Part 1: Product standard

Signaux de signalisation routière verticale - Panneaux à messages variables - Partie 1: Norme produit

Vertikale Verkehrszeichen - Wechselverkehrszeichen - Teil 1: Produktnorm

This European Standard was approved by CEN on 15 March 2005 and includes Amendment 1 approved by CEN on 3 October 2009.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Contents

Page

Foreword 3
Introduction 4
1 Scope 5
2 Normative references 5
3 Terms and definitions 6
4 Dimensions and tolerances 8
5 General design requirements 9
6 Materials 9
7 Visual performance 9
8 Physical performance 18
9 Test methods 21
10 Product classification codes 35
11 Marking, labelling and product information 36
12 Evaluation of conformity 37
13 Dangerous substances 37
Annex A (normative) Equivalent area 38
Annex B (informative) Terminology used in this document 45
Annex C (informative) A1 Guidance on graphics for discontinuous light emitting signs A1 47
Annex D (informative) A1 Guidance on dimensions and class combinations for discontinuous light emitting signs A1 58
Annex E (informative) Specific design issues 66
Annex F (informative) Design of VMS messages 68
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives 70
Bibliography 77

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Foreword

This document (EN 12966-1:2005+A1:2009) has been prepared by Technical Committee CEN/TC 226 “Road equipment”, the secretariat of which is held by AFNOR.

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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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 includes Amendment 1 approved by CEN on 2009-10-03.

This document supersedes EN 12966-1:2005.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1⟩ ⟨A1▌.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard consists of the following Parts under the general title:

▌A1⟩ Road vertical signs - Variable message traffic signs
- Part 1: (this part) *Variable message signs (VMS)*
- Part 2: *Initial type testing*
- Part 3: *Factory production control* ⟨A1▌

It derives from performance requirements and test methods published in CEN, CENELEC, CIE and ISO documents together with standards of the CEN member organisations.

▌A1⟩ Where a Member State has no legal requirement for a characteristic manufacturers are not required to determine or declare the value of that characteristic. ⟨A1▌

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Introduction

This document is designed for use by Road Authorities and private developers who wish to use variable message signs. It provides performance requirements and the means of evaluation of conformity to those requirements.

This document is a product standard covering the requirements for Variable Message Signs (VMS). A VMS is a sign where the information shown can be changed. The information can be text and/or symbols.

This document does not describe the detailed form and configuration of a VMS. Therefore test modules are used to demonstrate conformance with the requirements of this document because of the impracticality of testing some complete signs.

Because of the major demands on a sign for good legibility and visibility throughout the required viewing range, the main properties of the sign are described. These properties can vary depending on the situation. For example, it will be not necessary to ask for a minimum temperature requirement of -40 °C in Greece, but this will be considered in Lapland. For visual performance there will be a difference between installation on highways - with good distance visibility and a narrow beam width - and installation in cities, where there is only short distance legibility and when a wide beam may be required.

This document uses performance requirements, which are not dependent on technology. The visual and environmental performance is demonstrated on a test module. This document contains a number of defined requirements, some of which have to be demonstrated on the test module, others that are to be verified by the manufacturer. It is the manufacturer’s responsibility to ensure that the final product is fully representative of the test module.

The main properties of VMS are divided into classes, which are designed to be selected by choosing a combination of classes dependent on the situation and purchaser requirements. This combination covers not only the regulatory requirements of the territory of destination but also issues of lifetime, quality, maintenance and construction, all of which affect the ability of a sign in its particular application, to meet safety and fitness for purpose. The details in the informative Annexes are provided as useful guidance on the additional aspects relating to VMS for those setting up purchasing contracts for signs or signing systems.

The working environment for VMS can be relatively harsh and equipment that is deemed "fit for purpose" is expected to last in an exposed, corrosive environment for a minimum of 10 years. It is essential that all materials and manufacturing processes take this into account. The manufacturer should detail all steps taken to comply with this.

[A1] In Member States which have no legal requirement for any of the characteristics in this standard manufacturers are not required to determine and declare the performance of those characteristics. [A1]

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1 Scope

This document specifies requirements and test methods for new Variable Message Signs (VMS).

VMS comprise two types, continuous and discontinuous signs:

- continuous signs are those that are similar to fixed signs, the only difference being that by some electro-mechanical means they can show various messages.

NOTE 1 For example rotating prism signs, roller blinds.

- discontinuous signs create messages using individual elements that can be in one of two states (or more) and can thereby create various messages on the same sign face.

NOTE 2 For example fibre optic signs, LED signs.

This document covers the performance requirements for Variable Message Signs used for the instruction and guidance of road users on public and private land, including tunnels. In this document a number of different performance requirements (visual performance, EMC, environmental performance, etc) are covered, as well as durability.

The EMC, safety and environmental requirements for both types of VMS are included in this document together with the visual performance for the discontinuous types VMS.

The visual performance for continuous signs and ⟦A1⟩ externally illuminated ⟨A1⟧ discontinuous signs which are externally illuminated is covered by EN 12899-1.

This document defines performance limits and a range of performance classes for both sign assemblies without vertical support and assemblies complete with vertical support.

Not covered by this document are:

a) sign gantries, cantilevers and foundations;

⟦A1⟩ *deleted text* ⟨A1⟧

b) signal heads;

c) sizes and shapes of VMS messages;

d) control units and monitoring units unless inside the test module;

⟦A1⟩ e) sign luminance control. The control of the luminance of luminous signs with respect to the ambient light is not covered by this standard. ⟨A1⟧

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 12767, ⟦A1⟩ *Passive safety of support structures for road equipment — Requirements, classification and test methods* ⟨A1⟧

EN 12966-2, *Road vertical signs — Variable message traffic signs — Part 2: Initial type testing*

EN 12966-3, *Road vertical signs —Variable message traffic signs — Part 3: Factory production control*

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