

Fixed, vertical road traffic signs —

Part 2: Transilluminated traffic bollards (TTB)

ICS 93.080.30

National foreword

This British Standard is the UK implementation of EN 12899-2:2007. It supersedes BS 873-3:1980, which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee B/509, Road equipment, to Subcommittee B/509/3, Construction of road traffic signs.

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

Additional information

BS EN 12899-2:2007 fully takes into account the requirements of the European Commission Mandate M/111, Circulation fixtures, given under the EU Construction Products Directive (89/106/EEC).

BS EN 12899-2:2007 is a standard which sets down performance values (classes) rather than a method of manufacture. It has, in most cases, several performance classes for each characteristic.

Some of these classes have a range of values. A manufacturer can supply a product that has the lowest value and still meet that class. Purchasers need to be aware of this when specifying requirements.

BS EN 12899-2:2007 gives guidance and background information to manufacturers of transilluminated traffic bollards on the use of BS EN 12899-2:2007. In particular it provides guidance in relation to the information that a manufacturer requires from purchasers. This would enable transilluminated traffic bollards to be designed and manufactured on the basis of that information whilst conforming to BS EN 12899-2:2007.

Information on visual and physical performance classes is also included.

Recommended classes for visual and physical performance properties considered most suitable for UK practice are given in the National Annex.

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

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2008

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Date	Comments
30 September 2014	Correction to Table NA.1: reference to withdrawn standard BS 8408:2005 removed

English Version

Fixed, vertical road traffic signs - Part 2: Transilluminated traffic bollards (TTB)

Signaux fixes de signalisation routière verticale - Partie 2 :
Bornes lumineuses

Ortsfeste, vertikale Straßenverkehrszeichen - Teil 2:
Innenbeleuchtete Verkehrsleitsäulen (TTB)

This European Standard was approved by CEN on 4 February 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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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Foreword

This document (EN 12899-2:2007) has been prepared by the 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 2008, and conflicting national standards shall be withdrawn at the latest by August 2012.

No existing European Standard is superseded.

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 Directives.

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

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

Fixed, vertical road traffic signs —

Part 1: *Fixed signs*

Part 2: (this part) *Transilluminated traffic bollards (TTB)*

Part 3: *Delineator posts and retroreflectors*

Part 4: *Factory production control*

Part 5: *Initial type testing*

It is based on performance requirements and test methods published in CEN, CENELEC, CIE (International Commission on Illumination) and ISO documents together with standards of the CEN member organizations.

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.

Introduction

This European Standard is designed for use by road authorities. It can also be used by private developers who wish to use signs on their own land similar to those used on public highways.

It can be used to implement type approval and certification testing.

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

1 Scope

This Part 2 of EN 12899 specifies requirements for new transilluminated traffic bollards (TTBs) including their fixing, which may incorporate traffic signs (type 1 TTB) or may support traffic signs (type 2 TTB) to be used in traffic circulation areas.

It covers performance requirements and test methods.

Colorimetric and retroreflective properties as well as luminance of transilluminated illuminated portions are specified taking into account CIE recommendations.

Structural requirements for TTBs include performance under static and dynamic loading.

Provision is made for safety in use, including vehicle impact.

Devices of similar function, but without transillumination or less than 600 mm in height, are not covered.

NOTE Foundations are not specified in this standard but should be adequate to support the loads to be carried.

Unless otherwise stated, clauses in this standard apply to both type 1 and type 2 TTBs.

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 12899-1:2007, *Fixed vertical road traffic signs — Part 1: Fixed signs*

EN 12899-4, *Fixed vertical road traffic signs — Part 4: Factory production control*

EN 12899-5, *Fixed vertical road traffic signs — Part 5: Initial type testing*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN ISO 139 *Textiles — Standard atmospheres for conditioning and testing (ISO 139:2005)*

EN ISO 877:1996, *Plastics — Methods of exposure to direct weathering, to weathering using glass-filtered daylight, and to intensified weathering by daylight using Fresnel mirrors (ISO 877:1994)*

EN ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods (ISO 1461:1999)*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*

ISO 4:1997, *Information and documentation — Rules for the abbreviation of title words and titles of publications*

3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the symbols and abbreviations given in ISO 4:1997, the terms and definitions given in EN 12899-1:2007 and the following apply.

3.1

transilluminated traffic bollard (TTB)

totally or partially transilluminated device placed to warn drivers of obstructions in the road

3.2

type 1 TTB

TTB which incorporates one or more traffic signs or plain surfaces as alternatives (see Annex A for illustrations)

3.3

type 2 TTB

TTB which supports one or more traffic signs, (see Annex A for illustrations)

3.4

base

part of a TTB which is used to secure the body to the foundation

3.5

body

part of a type 1 TTB below the head and attached to the base, or the whole of a type 2 TTB above the base

3.6

depth

maximum horizontal dimension parallel to the direction of the traffic flow on the road in which the TTB is located

3.7

head

top part of a type 1 TTB measured from the upper extremity to not more than 50 mm below any sign or plain surface in which the traffic sign(s) are incorporated

3.8

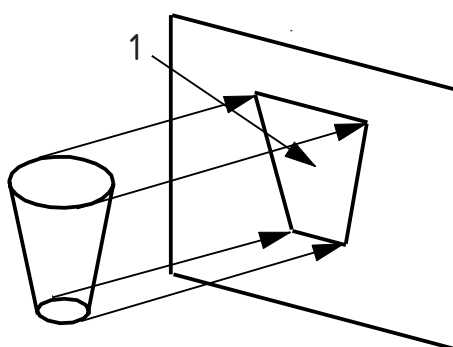
overall height

vertical dimension measured from the ground line to the upper extremity of the TTB

3.9

projected area

area of a three dimensional object when projected on to a plane surface at right angles to the direction of viewing (see Figure 1)



Key

1 Projected area

Figure 1 — Projected area

3.10

ground line

horizontal line marked on the TTB which, when the TTB has been installed in accordance with the manufacturer's instructions, is level with the surface of the obstruction on which it is installed

3.11

width

maximum horizontal dimension at right angles to the direction of traffic flow

4 General

4.1 Design

4.1.1 Overall height

4.1.1.1 Type 1 TTBs

The minimum overall height of type 1 TTBs shall conform to Table 1.

Table 1 — Overall height

Class	Minimum overall height mm
OH1	900
OH2	1100

The projected distance between the upper extremity of the head and the top of any sign or plain surface shall be not more than 70 mm.

NOTE OH1 TTBs are suitable to support signs or plain surfaces less than 350 mm in diameter. OH2 TTBs are suitable to contain signs or plain surfaces 350 mm in diameter and greater.

4.1.1.2 Type 2 TTBs

Type 2 TTBs shall have a minimum overall height of 750 mm.