

# Road traffic noise reducing devices — Non-acoustic performance —

## Part 2: General safety and environmental requirements

The European Standard EN 1794-2:1998 has the status of a  
British Standard

ICS 93.080.30

---

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

**BSI**  
Documents



Document Sharing Hub

# National foreword

This British Standard is the English language version of EN 1794-2:1998.

The UK participation in its preparation was entrusted by Technical Committee B/509, Road equipment, to Subcommittee B/509/6, Fences for the attenuation of noise, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

## Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

## Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 11 and a back cover.

## Amendments issued since publication

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

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 November 1998

© BSI 1998

ISBN 0 580 30455 8

---

ICS 93.080.30

Descriptors: Environmental protection, acoustics, noise: sound, roads, traffic lanes, acoustic shields, noise reduction, tests, safety, fire resistance, emergency exits, reflection, transparency

English version

## Road traffic noise reducing devices — Non-acoustic performance — Part 2: General safety and environmental requirements

Dispositifs de réduction du bruit du trafic routier —  
Performances non acoustiques —  
Partie 2: Prescriptions générales pour la sécurité et  
l'environnement

Lärmschutzeinrichtungen an Straßen —  
Nichtakustische Eigenschaften —  
Teil 2: Allgemeine Sicherheits- und  
Umweltanforderungen

This European Standard was approved by CEN on 21 June 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

---

© 1998 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Foreword

This European Standard 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 January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

This European Standard consists of the following Parts under the general title *Road traffic noise reducing devices — Non-acoustic performance*:

- *Part 1: Mechanical performance and stability requirements*;
- *Part 2: General safety and environmental requirements*.

Annexes A to E of this part of EN 1794 are normative and annex F is informative.

Another standard covering long term durability (service life) is in course of preparation.

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

Contents

|                                                                | Page |
|----------------------------------------------------------------|------|
| Foreword                                                       | 2    |
| Introduction                                                   | 3    |
| 1 Scope                                                        | 3    |
| 2 Normative references                                         | 3    |
| 3 Definitions and symbols                                      | 3    |
| 4 Requirements                                                 | 4    |
| 5 Test report                                                  | 4    |
| Annex A (normative) Resistance to brushwood fire               | 5    |
| Annex B (normative) Secondary safety: danger of falling debris | 6    |
| Annex C (normative) Environmental protection                   | 6    |
| Annex D (normative) Means of escape in emergency               | 6    |
| Annex E (normative) Light reflection                           | 7    |
| Annex F (informative) Transparency                             | 7    |

## Introduction

While performing their primary function, road traffic noise reducing devices should not pose hazards to road users or other people in the vicinity or to the environment at large. Noise reducing devices should not assist the spread of fire from adjacent verges or nearby land. Fire resistance in accordance with particular standards can in addition be required to minimize risk to adjacent premises, or to road users in confined corridors. Noise reducing devices should not reflect light in such a way as to prejudice road safety. They should be made from materials which do not emit noxious fumes or leachates as the result of natural or industrial processes, or as the result of fire. Noise reducing devices should allow a means of escape by road users and access by operatives in the event of an emergency.

Noise reducing devices are not in general expected to resist the impact of vehicles, but designers may need information about the consequences of such impact load to establish the requirements for protection of road users and passers-by.

## 1 Scope

This European Standard specifies minimum requirements and other criteria for assessing the general safety and environmental performance of road traffic noise reducing devices under typical roadside conditions. Requirements for more onerous conditions are a matter for consideration by the designer. Appropriate test methods are provided where these are necessary, but for some aspects a declaration of material characteristics can be required for the information of designers. The treatment of each topic is covered separately in annexes A to F.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1793-1, *Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 1: Intrinsic characteristics of sound absorption*.

EN 1793-2, *Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 2: Intrinsic characteristics of airborne sound insulation*.

EN 2155-5:1989, *Aerospace series — Test methods for transparent materials for aircraft glazing — Part 5: Determination of visible light transmission*.

EN 410, *Glass in building — Determination of luminous and solar characteristics of glazing*.

EN 1794-1:1998, *Road traffic noise reducing devices — Non-acoustic performance — Part 1: Mechanical performance and stability requirements*.

ISO 2813, *Paints and varnishes — Determination of specular gloss of non metallic paint films at 20°, 60° and 85°*.

## 3 Definitions and symbols

### 3.1 Definitions

For the purposes of this standard, the following definitions apply:

#### 3.1.1

##### noise barrier

noise reducing device which obstructs the direct transmission of airborne sound emanating from road traffic

#### 3.1.2

##### cladding

noise reducing device which is attached to a wall or other structure to reduce the amount of sound reflected

#### 3.1.3

##### cover

noise reducing device which either spans or overhangs the highway

#### 3.1.4

##### structural element

element whose primary function is to support or hold in place acoustic elements

#### 3.1.5

##### acoustic element

element whose primary function is to provide the acoustic performance of the device

### 3.2 Symbols

|            |                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------|
| $\alpha_m$ | angle at which reflections from the surface of the transparent material obscure the view through the material, in degrees; |
| $\alpha_n$ | angle of transparency (see Figure F.2), in degrees;                                                                        |
| $\beta_n$  | angle of opacity (see Figure F.2), in degrees;                                                                             |
| $K_A$      | visual acuity factor (see Figure F.1), in degrees;                                                                         |
| $L_T$      | light transmission index (as determined in accordance with EN 410 or EN 2155-5), in per cent;                              |
| $S_O$      | area of opaque features within transparent elements, in square millimetres;                                                |
| $S_T$      | total area of transparent elements, including horizontal features, in square millimetres;                                  |
| $T$        | transparency, in per cent;                                                                                                 |
| $T_r$      | transparency looking right, in per cent;                                                                                   |
| $T_D$      | dynamic transparency, in per cent;                                                                                         |
| $T_S$      | static transparency, in per cent;                                                                                          |