

Road traffic noise reducing devices — Non-acoustic performance —

Part 2: General safety and environmental requirements

The European Standard EN 1794-2:2003 has the status of a British Standard

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National foreword

This British Standard is the official English language version of EN 1794-2:2003. It supersedes BS EN 1794-2:1998 which is withdrawn.

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

- aid enquirers to understand the text;
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Performances non acoustiques - Partie 2: Exigences
générales pour la sécurité et l'environnement

Lärmschutzeinrichtungen an Straßen - Nichtakustische
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Foreword

This document (EN 1794-2:2003) 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of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

This document supersedes EN 1794-2:1998.

This European standard consists of the following parts under the general title "Road traffic noise reducing devices - Non-acoustic performance" :

¾ *Part 1 : Mechanical performance and stability requirements*

¾ *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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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 minimise 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 can 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 may 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 the 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 (including amendments).

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*.

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

EN ISO 2813, *Paints and varnishes - Determination of specular gloss of non-metallic paint films at 20°, 60° and 85° (ISO 2813:1994, including Technical Corrigendum 1:1997)*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this European Standard, the following terms and 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

α_m	angle at which reflections from the surface of the transparent material obscure the view through the material, in degree ;
α_n	angle of transparency (see Figure F.1), in degrees ;
β_n	angle of opacity (see Figure F.1), in degrees ;
K_A	visual acuity factor (see Figure F.2), 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 percent ;
T_r	transparency looking right, in percent ;
$T_l =$	Transparency looking left, in percent ;
T_D	dynamic transparency, in percent ;
T_S	static transparency, in percent.

4 Requirements

4.1 Resistance to brush fire

The noise reducing device shall be classified in accordance with annex A.

NOTE This European Standard permits specifying authorities to indicate that there is no requirement for resistance to brushwood fire.

4.2 Secondary safety (falling debris)

When a secondary safety has to be assessed, this shall be done in accordance with annex B.

NOTE This European Standard permits specifying authorities to indicate that there is no requirement for secondary safety.

4.3 Environmental protection

The constituent materials and their breakdown products shall be identified in accordance with annex C.

NOTE This European Standard permits specifying authorities to indicate that there is no requirement for environmental protection.

4.4 Means of escape in emergency

The acoustic and mechanical performances of doors or other means of escape shall be assessed in accordance with annex D.

NOTE This European Standard permits specifying authorities to indicate that there is no requirement for means of escape in emergency.