Road traffic noise reducing devices - Non-acoustic performance - Part 1: Mechanical performance and stability requirements

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1794-1:2011 sisaldab Euroopa standardi EN 1794-1:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 1794-1:2011 consists of the English text of the European standard EN 1794-1:2011.
Standard on kinnitatud Eesti Standardikeskuse 28.02.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
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English Version

Road traffic noise reducing devices - Non-acoustic performance - Part 1: Mechanical performance and stability requirements

Dispositifs de réduction du bruit du trafic routier - Performances non acoustiques - Partie 1: Performances mécaniques et exigences en matière de stabilité

Lärmschutzeinrichtungen an Straßen - Nichtakustische Eigenschaften - Teil 1: Mechanische Eigenschaften und Anforderungen an die Standsicherheit

This European Standard was approved by CEN on 10 December 2010.

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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-CENELEC Management Centre has the same status as the official versions.

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Contents

Foreword

This document (EN 1794-1:2011) 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of an identical text or by endorsement, at the latest by July 2011, and conflicting national standards shall be withdrawn at the latest by July 2011.

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 supersedes EN 1794-1:2003.

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*

The main changes compared to the previous edition are:

a) fatigue (A.2.3.2);

b) the wind load for low barriers;

c) addition to Annex A of a note on shape factors.

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, Croatia, 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

While performing their primary function, road traffic noise reducing devices are exposed to a range of forces due to wind, dynamic air pressure caused by passing traffic, and the self weight of its component parts. They can also be subjected to shocks caused by stones or other debris thrown up by vehicle tyres and, in some countries, the dynamic force of snow ejected by equipment used to clear roads in winter. The deflections of a noise reducing device under such loads during its design life should not reduce its effectiveness.

1 Scope

This European Standard specifies criteria to categorise road traffic noise reducing devices according to basic mechanical performance under standard conditions of exposure, irrespective of the materials used. A range of conditions and optional requirements is provided in order to take into account the wide diversity of practice in Europe. Individual aspects of performance are covered separately in the annexes. Safety considerations in the event of damage to noise reducing devices are covered in Part 2 of this European Standard.

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 1991-1-4, *Eurocode 1: Actions on structures — Part 1-4: General actions — Wind actions*

EN 1317-1, *Road restraint systems — Part 1: Terminology and general criteria for test methods*

EN 1317-2, *Road restraint systems — Part 2: Performance classes, impact test acceptance criteria and test methods for safety barriers including vehicle parapets*

EN 1794-2:2011, *Road traffic noise reducing devices — Non-acoustic performance — Part 2: General safety and environmental requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
noise barrier
noise reducing device which obstructs the direct transmission of airborne sound emanating from road traffic

3.2
cladding
noise reducing device which is attached to a wall or other structure to reduce the amount of sound reflected

3.3
cover
noise reducing device which either spans or overhangs the highway

3.4
structural element
element whose primary function is to support or hold in place acoustic elements

3.5
acoustic element
element whose primary function is to provide the acoustic performance of the device

3.6
mechanical test hammer
device of the type used for measuring the elasticity of hard surfaces

3.7
test area
central area of a full size panel enclosed by a margin of 125 mm from each edge, as shown in Figure C.2