Irish Standard
I.S. EN 1794-1:2018

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

I.S. EN 1794-1:2018

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1794-1

February 2018

ICS 93.080.30

Supersedes EN 1794-1:2011

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

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

This European Standard was approved by CEN on 13 November 2017.

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European foreword

This document (EN 1794-1:2018) 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of an identical text or by endorsement, at the latest by August 2018, and conflicting national standards shall be withdrawn at the latest by August 2018.

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 1794-1:2011.

The main change compared to the previous edition concerns:

— the Annex A, i.e.: the way to consider the resistance of the Noise Reducing Devices (NRD) to loads. The first version of this standard was written before the Eurocodes were published and, then, was specifying performances. This revised version of the standard now only states the methods of assessment of the maximum load the NRD can withstand without damage. Essentially the manufacturer now has the responsibility to declare the maximum load guarantee representative of its product performances, and to demonstrate those performances. On the other hand, facing previous problems with wrongly calculated performances of some acoustic elements, this new version of the standard requires that the assessment of the performances is now done mainly by testing.

— the Annex D: the acceptance criteria given in the previous version of this standard have been deleted and this revised version of the standard now only refers to EN 1317-1 and EN 1317-2.

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*

— *Part 3: Reaction to fire — Burning behaviour of noise reducing devices and classification*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the 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 categorize 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 EN 1794-2.

This European Standard covers the current behaviour of the product. In order to assess its long term performances, EN 14389-2 should be used.

NOTE The test procedure described in Annex A doesn't consider the fatigue effect.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 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 1990, *Eurocode — Basis of structural design*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
noise reducing device
NRD
device that is designed to reduce the propagation of traffic noise away from the road environment

Note 1 to entry: This may be a noise barrier, cladding, a road cover or an added device. These devices may include both acoustic and structural elements.

3.2
noise barrier
noise reducing device, which obstructs the direct transmission of airborne sound emanating from road traffic

3.3
acoustic element
element whose primary function is to provide the acoustic performance of the device