Road traffic noise reducing devices - Non-acoustic performance - Part 1: Methods of determination of the mechanical and stability characteristics

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1794-1:2024 sisaldab Euroopa standardi EN 1794-1:2024 ingliskeelset teksti.	This Estonian standard EVS-EN 1794-1:2024 consists of the English text of the European standard EN 1794-1:2024.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.10.2024.	Date of Availability of the European standard is 09.10.2024.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 93.080.30

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1794-1

October 2024

ICS 93.080.30

Supersedes EN 1794-1:2018+AC:2018

English Version

Road traffic noise reducing devices - Non-acoustic performance - Part 1: Methods of determination of the mechanical and stability characteristics

Dispositifs de réduction du bruit du trafic routier - Performances non acoustiques - Partie 1 : Méthode de détermination des caractéristiques mécaniques et de stabilité

Lärmschutzvorrichtungen an Straßen - Nichtakustische Eigenschaften - Teil 1: Verfahren zur Bestimmung mechanischer Eigenschaften der Standsicherheit

This European Standard was approved by CEN on 9 September 2024.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 1794-1:2024 E

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European foreword

This document (EN 1794-1:2024) 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 April 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1794-1:2018+AC:2018.

EN 1794-1:2024 includes the following significant technical change with respect to EN 1794-1:2018+AC:2018:

— Annex A: the acceptance criteria for the resistance against horizontal loads given in the previous version of this standard have been transferred to EN 14388.

This document is part of the EN 1794 series, which consists of the following parts under the general title *“Road traffic noise reducing devices — Non-acoustic performance”*:

— *Part 1: Methods of determination of the mechanical and stability characteristics*;

— *Part 2: Methods of determination of the general safety and environmental characteristics*.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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 document specifies criteria to categorize road traffic noise reducing devices according to basic mechanical characteristics 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 road noise reducing devices are covered in EN 1794-2.

This document covers the current behaviour of the product. For the assessment of its long-term characteristics, EN 14389 is applicable.

NOTE The test procedure described in Annex A does not 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 a requirement 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*

3 Terms, definitions and symbols

3.1 Terms and definitions

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

3.1.1
road traffic noise reducing device
RTNRD
device designed to reduce the propagation of traffic noise away from the road environment

Note 1 to entry: RTNRDs can comprise *acoustic elements* (3.1.2) only, or both *structural* (3.1.3) and *acoustic elements*.

Note 2 to entry: Applications of RTNRDs include *noise barriers* (3.1.5), *claddings* (3.1.6), *covers* (3.1.7) and *added devices* (3.1.8).

3.1.2
acoustic element
element whose primary function is to provide the acoustic performance of the device

3.1.3
structural element
element whose primary function is to support or hold in place the parts of the RTNRD

3.1.4
self-supporting acoustic element
acoustic element including its own structural element to support itself