SLOVENSKI STANDARD
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Protihrupne ovire za cestni promet - Preskusna metoda za ugotavljanje akustičnih lastnosti - 2. del: Karakteristike, značilne za izolacijo pred zvokom v zraku pri razpršenem zvočnem polju

Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 2: Intrinsic characteristics of airborne sound insulation under diffuse sound field conditions

Lärmschutzvorrichtungen an Straßen - Prüfverfahren zur Bestimmung der akustischen Eigenschaften - Teil 2: Produktspezifische Merkmale der Luftschalldämmung in diffusen Schallfeldern

Dispositifs de réduction du bruit du trafic routier - Méthode d'essai pour la détermination de la performance acoustique - Partie 2: Caractéristiques intrinsèques de l'isolation aux bruits aériens dans des conditions de champ acoustique diffus

Ta slovenski standard je istoveten z: **prEN 1793-2**

ICS:

17.140.30	Emisija hrupa transportnih sredstev	Noise emitted by means of transport
93.080.30	Cestna oprema in pomožne naprave	Road equipment and installations

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 1793-2

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ICS 17.140.30; 93.080.30

Will supersede EN 1793-2:2012

English Version

Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 2: Intrinsic characteristics of airborne sound insulation under diffuse sound field conditions

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 226.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Contents

Page

European foreword

This document (prEN 1793-2:2016) has been prepared by Technical Committee CEN/TC 226 “Road equipment”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1793-2:2012.

With respect to the superseded document, the following changes have been made:

— The declaration of measurement uncertainty and the related confidence level is now mandatory. The reported uncertainties have an impact on the determination of informative categories of single number rating performance; depending on the performance of the product this could potentially result in products being 'downgraded' to a lower category. As a result, the informative annex in the previous version of this European Standard that addressed categories of single number rating has been removed. The performance of the noise reducing device is, from now on, only to be reported in terms of the numeric values of the single number rating.

EN 1793-2 is part of a series and should be read in conjunction with the following:

— EN 1793-1, Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 1: Intrinsic characteristics of sound absorption under diffuse sound field conditions;

— EN 1793-3, Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 3: Normalized traffic noise spectrum;

— EN 1793-4, Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 4: Intrinsic characteristics — In situ values of sound diffraction;

— EN 1793-5, Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 5: Intrinsic characteristics — In situ values of sound reflection under direct sound field conditions;

— EN 1793-6, Road traffic noise reducing devices — Test method for determining the acoustic performance — Part 6: Intrinsic characteristics — In situ values of airborne sound insulation under direct sound field conditions.

Introduction

Noise reducing devices alongside roads need to provide adequate sound insulation so that sound transmitted through the device is not significant compared with the sound diffracted over the top. This European Standard specifies a test method for qualifying the intrinsic airborne sound insulation performance for noise reducing devices designed for roads in reverberant conditions, e.g. inside tunnels or deep trenches or under covers.

The measurement results of this method for airborne sound insulation are comparable but not identical with the results of the test method EN 1793-6, mainly because the present method uses a diffuse sound field, while the other method assumes a directional sound field. Research studies suggest that good correlation exists between field data, measured according to EN 1793 6 and laboratory data, measured according to the method described in the present document [1], [2], [3], [4].

The test method described in this European Standard should not be used to determine the intrinsic characteristics of airborne sound insulation for noise reducing devices to be installed on roads in non-reverberant conditions.

This European Standard is not concerned with determining insertion loss (extrinsic performance) which additionally depends on factors which are not related to the product itself; e.g. the dimensions of the barrier and quality of installation work and site factors such as ground impedance, site geometry etc. The test is designed to allow the intrinsic airborne sound insulation performance of the device to be measured; the resulting rating should aid the selection of devices for reverberant roadside applications.

For the purpose of this European Standard reverberant conditions are defined based on the geometric envelope, e, across the road formed by the barriers, trench sides or buildings (the envelope does not include the road surface) as shown by the dashed lines in Figure 1. Conditions are defined as being reverberant when the percentage of open space in the envelope is less than or equal to 25 %, i.e. reverberant conditions occur when $w/e \leq 0{,}25$, where $e = (w+h_1+h_2)$.

NOTE This method may be used to qualify noise reducing devices for other applications, e.g. to be installed nearby industrial sites. In this case, the single-number ratings will preferably be calculated using an appropriate spectrum.