# SLOVENSKI STANDARD
# SIST EN 1793-3:1999

**01-november-1999**

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**Protihrupne ovire za cestni promet – Preskusna metoda za ugotavljanje akustičnih lastnosti - 3. del: Normalizirani spekter hrupa cestnega prometa**

Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 3: Normalized traffic noise spectrum

Lärmschutzeinrichtungen an Straßen - Prüfverfahren zur Bestimmung der akustischen Eigenschaften - Teil 3: Standardisiertes Verkehrslärmspektrum



Dispositifs de réduction du bruit du trafic routier - Méthode d'essai pour la détermination de la performance acoustique - Partie 3: Spectre sonore normalisé de la circulation



**Ta slovenski standard je istoveten z: EN 1793-3:1997**

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**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 |

**SIST EN 1793-3:1999 en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

**EN 1793-3**

September 1997

ICS 17.140.30; 93.080.30

Descriptors: environmental protection, acoustics, noise: sound, roads, traffic lanes, acoustic shields, acoustic tests, laboratory tests, acoustic measurements, noise reduction, estimation, spectra

English version

# Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 3: Normalized traffic noise spectrum



Dispositifs de réduction du bruit du trafic routier - Méthode d'essai pour la détermination de la performance acoustique - Partie 3: Spectre sonore normalisé de la circulation

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**CEN**

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Ref. No. EN 1793-3:1997 E

Contents

**Foreword**

This European Standard has been prepared by Technical Committee CEN/TC 226 "Road equipment"; the secretariat of which is held by AFNOR.

This European Standard consists of the following parts under the general title :

Road traffic noise reducing devices - Test method for determining the acoustic performance :

- Part 1 : Intrinsic characteristics of sound absorption ;
- Part 2 : Intrinsic characteristics of airborne sound insulation ;
- Part 3 : Normalized traffic noise spectrum.

The following parts have not yet been prepared but research is being carried out within the European Research Programme "Testing and Measurement":

- Part 4 : Extrinsic characteristics of *in situ* efficiency ;
- Part 5 : Intrinsic characteristics of *in situ* values of sound absorption and airborne sound insulation.



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 March 1998, and conflicting national standards shall be withdrawn at the latest by March 1998.



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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

As the main acoustic properties of road traffic noise reducing devices, transmission loss and absorption, are frequency dependent, there is a need to define a traffic noise spectrum for test purposes. This standard defines the basic properties of traffic noise measured at the roadside in terms of a characteristic normalized traffic noise spectrum, which is needed to evaluate single-number ratings of noise reducing devices except those used in reverberent conditions, e.g. tunnels.

## 1 Scope

This standard gives a normalized traffic noise spectrum for the evaluation and assessment of the acoustic performance of devices designed to reduce traffic noise near roads.

## 2 Definitions

For the purposes of this standard the following definitions apply :

2.1 **normalized traffic noise spectrum :** Spectrum that is used for the calculation of the acoustic performance of traffic noise reducing devices near roads in terms of single-number ratings of sound absorption and airborne sound insulation. The spectrum is expressed in relative A-weighted sound pressure levels, in decibels, for one-third octave bands, $L_i$, in the frequency range from 100 Hz to 5 kHz.



2.2 **one-third octave band level $L_i$ :** Relative A-weighted sound pressure levels, in decibels, of the normalized traffic noise spectrum for one-third octave bands with centre frequency $f_i$.

## 3 Normalized traffic noise spectrum

The normalized traffic noise spectrum shown in table 1 shall be used to assess the acoustic performance of traffic noise reducing devices.

**Table 1 : Normalized traffic noise spectrum**

| $f_i$ Hz | $L_i$ dB |
|---|---|
| 100 | - 20 |
| 125 | - 20 |
| 160 | - 18 |
| 200 | - 16 |
| 250 | - 15 |
| 315 | - 14 |
| 400 | - 13 |
| 500 | - 12 |
| 630 | - 11 |
| 800 | - 9 |
| 1 000 | - 8 |
| 1 250 | - 9 |
| 1 600 | - 10 |
| 2 000 | - 11 |
| 2 500 | - 13 |
| 3 150 | - 15 |
| 4 000 | - 16 |
| 5 000 | - 18 |