BRITISH STANDARD

BS EN
1793-3 : 1998

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

Part 3. Normalized traffic noise spectrum

The European Standard EN 1793-3 : 1997 has the status of a British Standard

ICS 17.140.30; 93.080.30

National foreword

This British Standard is the English language version of EN 1793-3 : 1997.

The UK participation in its preparation was entrusted by Technical Committee B/509, Road equipment, to Subcommittee B/509/6, Fences for the attenuation of noise, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Summary of pages

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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

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

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CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Ref. No. EN 1793-3 : 1997 E

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.

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Contents

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 reverberant 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
1000	−8
1250	−9
1600	−10
2000	−11
2500	−13
3150	−15
4000	−16
5000	−18

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