

# SVENSK STANDARD

## SS-EN 16272-3-1:2012

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**Järnvägar – Spår – Bullerbarriärer och anordningar som påverkar uppkomsten av luftburet ljud – Provningsmetoder för bestämning av akustiska egenskaper –  
Del 3-1: Normaliserat spektrum för järnvägsbuller och en-siffrig skattning vid diffus tillämpning i fält**

**Railway applications – Track – Noise barriers and related devices acting on airborne sound propagation – Test method for determining the acoustic performance –  
Part 3-1: Normalized railway noise spectrum and single number ratings for diffuse field applications**



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Europastandarden EN 16272-3-1:2012 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 16272-3-1:2012.

The European Standard EN 16272-3-1:2012 has the status of a Swedish Standard. This document contains the official version of EN 16272-3-1:2012.

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EUROPEAN STANDARD

**EN 16272-3-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2012

ICS 93.100

English Version

**Railway applications - Track - Noise barriers and related devices  
acting on airborne sound propagation - Test method for  
determining the acoustic performance - Part 3-1: Normalized  
railway noise spectrum and single number ratings for diffuse  
field applications**

Applications ferroviaires - Voie - Dispositifs de réduction du  
bruit - Méthode d'essai pour la détermination des  
performances acoustiques - Partie 3-1: Spectre de bruit  
ferroviaire normalisé et indices uniques d'évaluation pour  
des applications en champs diffus

Bahnanwendungen - Oberbau - Lärmschutzwände und  
verwandte Vorrichtungen zur Beeinflussung der  
Luftschallausbreitung - Prüfverfahren zur Bestimmung der  
akustischen Eigenschaften - Teil 3-1: Standardisiertes  
Schienenverkehrslärmspektrum und Einzel-Angaben für  
diffuse Schallfelder

This European Standard was approved by CEN on 15 September 2012.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 16272-3-1:2012) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

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 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard is one of the series EN 16272 "Railway applications — Track — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance" as listed below:

- *Part 1: Intrinsic characteristics — Sound absorption in the laboratory under diffuse sound field conditions*
- *Part 2: Intrinsic characteristics — Airborne sound insulation in the laboratory under diffuse sound field conditions*
- *Part 3-1: Normalized railway noise spectrum and single number ratings for diffuse field applications*
- *Part 3-2: Normalized railway noise spectrum and single number ratings for direct field applications*<sup>1)</sup>
- *Part 4: Intrinsic characteristics — In situ values of sound diffraction under direct sound field conditions*<sup>1)</sup>
- *Part 5: Intrinsic characteristics — In situ values of sound reflection under direct sound field conditions*<sup>2)</sup>
- *Part 6: Intrinsic characteristics — In situ values of airborne sound insulation under direct sound field conditions*<sup>1)</sup>
- *Part 7: Extrinsic characteristics — In situ values of insertion loss*<sup>2)</sup>

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1) In preparation.

2) This document has been prepared as a CEN Technical Specification and is in preparation.

## Introduction

This document is to be read in conjunction with EN 16272-1 and EN 16272-2 and should be applied only to situations as described in those documents (diffuse sound field).

As the two main intrinsic acoustic characteristics of noise barriers and related devices acting on airborne sound propagation in a diffuse sound field, sound absorption and airborne sound insulation are frequency dependent; and there is a need to define a reference railway noise spectrum for test purposes. This European Standard defines the basic properties of railway noise measured at the rail track side in terms of a characteristic normalised railway noise spectrum which is needed to evaluate single-number ratings of noise barriers and related devices acting on airborne sound propagation in reverberant conditions, e.g. inside tunnels or deep trenches.

This European Standard should be read in conjunction with:

- EN 16272-1, *Railway applications — Track — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 1: Intrinsic characteristics — Sound absorption in the laboratory under diffuse sound field conditions*;
- EN 16272-2, *Railway applications — Track — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 2: Intrinsic characteristics — Airborne sound insulation in the laboratory under diffuse sound field conditions*.