

**SLOVENSKI STANDARD**  
**oSIST prEN 16272-2:2011**  
**01-julij-2011**

---

**Železniške naprave - Zgornji ustroj - Protihrupne ovire in pripadajoče naprave, ki ovirajo razširjanje zvoka po zraku - Preskusna metoda za ugotavljanje akustičnih lastnosti - 2. del: Izdelku lastne karakteristike - Izolacija v laboratoriju pred zvokom v zraku v pogojih razpršenega zvokovnega polja**

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

Bahnanwendungen - Oberbau - Lärmschutzwände und verwandte Vorrichtungen zur Beeinflussung der Luftschallausbreitung - Prüfverfahren zur Bestimmung der akustischen Eigenschaften - Teil 2: Produktspezifische Merkmale - Luftschalldämmung (Labormethode) bei diffusen Schallfeldern

[SIST EN 16272-2:2014](https://standards.iteh.ai/SIST/EN/16272-2/2014)

<https://standards.iteh.ai/catalog/standards/sist/405efc53-00c8-4d97-8981-ad369818fa41/sist-en-16272-2-2014>

**Ta slovenski standard je istoveten z: prEN 16272-2**

---

**ICS:**

17.140.30	Emisija hrupa transportnih sredstev	Noise emitted by means of transport
93.100	Gradnja železnic	Construction of railways

**oSIST prEN 16272-2:2011**

**en,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 16272-2**

April 2011

---

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 2: Intrinsic  
characteristics - Airborne sound insulation in the laboratory  
under diffuse sound field conditions**

Bahnanwendungen - Oberbau - Lärmschutzwände und  
verwandte Vorrichtungen zur Beeinflussung der  
Luftschallausbreitung - Prüfverfahren zur Bestimmung der  
akustischen Eigenschaften - Teil 2: Produktspezifische  
Merkmale - Luftschalldämmung (Labormethode) bei  
diffusen Schallfeldern

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 256.

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.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>		<b>Page</b>
Foreword.....		3
Introduction .....		4
1 Scope .....		5
2 Normative references .....		5
3 Definitions .....		5
4 Symbols and abbreviations .....		6
5 Test arrangement.....		6
6 Test procedure and evaluation.....		8
7 Measurement uncertainty .....		8
8 Test report .....		9
8.1 Expression of results .....		9
8.2 Further information.....		9
Annex A (informative) Measurement uncertainty .....		10
A.1 General.....		10
A.2 Measurement uncertainty based upon reproducibility data .....		10

iteh Standards  
 (<https://standards.iteh.ai>)  
 Document Preview

[SIST EN 16272-2:2014](https://standards.iteh.ai/catalog/standards/sist/405efc53-00c8-4d97-8981-ad369818fa41/sist-en-16272-2-2014)

<https://standards.iteh.ai/catalog/standards/sist/405efc53-00c8-4d97-8981-ad369818fa41/sist-en-16272-2-2014>

## Foreword

This document (prEN 16272-2:2011) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This European Standard is one of the series prEN 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*
- *Part 4: Intrinsic characteristics – In situ values of sound diffraction*
- *Part 5: Intrinsic characteristics – In situ values of sound absorption under direct sound field conditions*
- *Part 6: Intrinsic characteristics – In situ values of airborne sound insulation under direct sound field conditions*
- *Part 7: Extrinsic characteristics – In situ values of insertion loss*

It should be read in conjunction with:

- prEN 16272-3-1, *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*
- prEN 16272-6, *Railway applications – Track – Noise barriers and related devices acting on airborne sound propagation – 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 barriers installed along railways have to provide adequate sound insulation so that sound transmitted directly through the device is not significant compared to the sound diffracted over the top. This European Standard specifies a test method for assessing the airborne sound insulation performance of noise barriers and related devices acting on airborne sound propagation designed for railways (a measure of intrinsic performance). It is not concerned with determining sound insulation performance in situ, nor with determining the acoustic efficiency at receiver positions (insertion loss), which additionally depend 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 site geometry, ground impedance, meteorological effects, etc.. The test is designed to allow the intrinsic airborne sound insulation performance of the device under test to be measured and the resulting rating should aid the selection of the devices for particular railway applications.

The measurements results of this method for airborne sound insulation are comparable but not identical with the results of the prEN 16272-6 method, mainly because the present method assumes a diffuse sound field, while the prEN 16272-6 method uses a directional sound field. Research studies suggest that a very good correlation exists between data measured according to the method described in the present standard and data measured according to the method described in prEN 16272-6.

The test method described in this European Standard should not be used to determine completely the intrinsic characteristics of airborne sound insulation for noise reducing devices to be installed in non reverberant conditions, e.g. alongside railways in open space.

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

iteh Standards  
(<https://standards.iteh.ai>)  
Document Preview

[SIST EN 16272-2:2014](https://standards.iteh.ai/catalog/standards/sist/405efc53-00c8-4d97-8981-ad369818fa41/sist-en-16272-2-2014)

<https://standards.iteh.ai/catalog/standards/sist/405efc53-00c8-4d97-8981-ad369818fa41/sist-en-16272-2-2014>