SLOVENSKI STANDARD
SIST EN 16272-3-2:2023+A1:2026

01-julij-2026

Nadomešča:
SIST EN 16272-3-2:2023

Železniške naprave - Infrastruktura - Protihrupne ovire in pripadajoče naprave, ki vplivajo na širjenje zvoka v zraku - Preskusna metoda za ugotavljanje akustičnih lastnosti - 3-2. del: Normalizirani spekter železniškega hrupa in enomestne številske stopnje usmerjenega zvočnega polja (vključno z dopolnilom A1)

Railway applications - Infrastructure - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 3-2: Normalized railway noise spectrum and single number ratings for direct sound field applications

Bahnanwendungen - Oberbau - Lärmschutzwände und verwandte Vorrichtungen zur Beeinflussung der Luftschallausbreitung - Prüfverfahren zur Bestimmung der akustischen Eigenschaften - Teil 3□2: Standardisiertes Schienenverkehrslärmspektrum und Einzahl-Angaben für gerichtete Schallfelder

Applications ferroviaires - Infrastructure - Dispositifs de réduction du bruit - Méthode d'essai pour la détermination de la performance acoustique - Partie 3-2 : Spectre de bruit ferroviaire normalisé et indices uniques d'évaluation pour des applications en champ sonore direct

Ta slovenski standard je istoveten z: **EN 16272-3-2:2023+A1:2026**

ICS:

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

SIST EN 16272-3-2:2023+A1:2026 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16272-3-2:2023+A1

May 2026

ICS 93.100

Supersedes EN 16272-3-2:2023

English Version

Railway applications - Infrastructure - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 3-2: Normalized railway noise spectrum and single number ratings for direct sound field applications

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This European Standard was approved by CEN on 4 September 2023 and includes Amendment 1 approved by CEN on 20 April 2026.

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

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European foreword

This document (EN 16272-3-2:2023+A1:2026) has been prepared by Technical Committee CEN/TC 256 “Railway application”, 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 November 2026, and conflicting national standards shall be withdrawn at the latest by November 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1 approved by CEN on 20 April 2026.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] ⟨A1⟩.

This document supersedes [A1] EN 16272-3-2:2023 ⟨A1⟩.

The main changes compared to the previous edition are listed below:

— The ‘Terms, definitions, symbols and abbreviations’ clause has been updated;

— An annex with the values of the standard deviation of reproducibility and repeatability of single-number ratings has been added; this makes possible the declaration of the measurement uncertainty and the related confidence level, which is now mandatory (Annex C);

— The Bibliography chapter has been added.

[A1] — Formula (4) for $DL_{SI,G}$ has been changed.

— All single-number ratings are reported after having been rounded to the first decimal digit. ⟨A1⟩

EN 16272-3-2 is part of a series and is intended to be read in conjunction with the other parts. All parts are listed in the following:

— EN 16272-1, *Railway applications – Infrastructure — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 1: Intrinsic characteristics — Sound absorption under diffuse sound field conditions*

— EN 16272-2, *Railway applications – Infrastructure — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 2: Intrinsic characteristics — Airborne sound insulation under diffuse sound field conditions*

— EN 16272-3-1, *Railway applications – Infrastructure — 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 sound field applications*

— EN 16272-3-2, *Railway applications – Infrastructure — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 3-2: Normalized railway noise spectrum and single number ratings for direct sound field applications (the present document)*

— EN 16272-4, *Railway applications – Track — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 4: Intrinsic characteristics — In situ values of sound diffraction under direct sound field conditions*

— EN 16272-5, *Railway applications – Infrastructure — Noise barriers and related devices acting on airborne sound propagation — Part 5: Intrinsic characteristics —Sound absorption under direct sound field conditions*

— EN 16272-6, *Railway applications – Infrastructure — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 6: Intrinsic characteristics — Airborne sound insulation under direct sound field conditions*

— CEN/TS 16272-7, *Railway applications – Track — Noise barriers and related devices acting on airborne sound propagation — Test method for determining the acoustic performance — Part 7: Extrinsic characteristics — In situ values of insertion loss*

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document is to be read in conjunction with EN 16272-5[1] and EN 16272-6[2] and is applied only to situations as described in those documents (direct sound field conditions).

As the two main intrinsic acoustic characteristics of noise barriers and related devices acting on airborne sound propagation in a direct sound field, the sound reflection index and the sound insulation index, are frequency dependent, there is a need to define a reference railway noise spectrum for test purposes.

Also, the diffraction index difference, the main intrinsic acoustic characteristic of added devices, i.e. products to be added on the top of noise barriers and intended to contribute to sound attenuation acting primarily on the diffracted sound field, is frequency dependent and there is an analogous need to define a reference railway noise spectrum for test purposes.

This document defines the basic properties of railway noise measured at the rail track side in terms of a characteristic normalized railway noise spectrum, which is needed to evaluate single-number ratings of noise barriers and related devices acting on airborne sound propagation, except those used in reverberant conditions, e.g. inside tunnels or deep trenches.

[1] Under preparation. Stage at the time of publication: FprEN 16272-5:2023.
[2] Under preparation. Stage at the time of publication: FprEN 16272-6:2023.