SLOVENSKI STANDARD
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01-julij-2010

Železniške naprave - Akustika - Merjenje hrupa, ki ga oddajajo tirna vozila (ISO/DIS 3095:2010)

Railway applications - Acoustics - Measurement of noise emitted by railbound vehicles (ISO/DIS 3095:2010)

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Bahnanwendungen - Akustik - Messung der Geräuschemission von spurgebundenen Fahrzeugen (ISO/DIS 3095:2010)

Applications ferroviaires - Acoustique - Mesurage du bruit émis par les véhicules circulant sur rails (ISO/DIS 3095:2010)

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Ta slovenski standard je istoveten z: **prEN ISO 3095**

ICS:

17.140.30	Emisija hrupa transportnih sredstev	Noise emitted by means of transport
45.060.01	Železniška vozila na splošno	Railway rolling stock in general

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN ISO 3095

March 2010

ICS 17.140.30; 45.060.01

Will supersede EN ISO 3095:2005

English Version

Railway applications - Acoustics - Measurement of noise emitted by railbound vehicles (ISO/DIS 3095:2010)

Applications ferroviaires - Acoustique - Mesurage du bruit émis par les véhicules circulant sur rails (ISO/DIS 3095:2010)

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

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (prEN ISO 3095:2010) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 43 "Acoustics".

This document is currently submitted to the parallel Enquiry.

This document will supersede EN ISO 3095:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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DRAFT INTERNATIONAL STANDARD ISO/DIS 3095

ISO/TC **43**/SC **1** Secretariat: **DS**

Voting begins on: **2010-03-04**

Voting terminates on: **2010-08-04**

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Railway applications — Acoustics — Measurement of noise emitted by railbound vehicles

Applications ferroviaires — Acoustique — Mesurage du bruit émis par les véhicules circulant sur rails

[Revision of second edition (ISO 3095:2005)]

ICS 17.140.30; 45.020

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

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Introduction

Railway exterior noise is encountered both along open track and in and around railway yards and stations. It includes a number of different physical sources such as rolling noise, impact noise, traction noise, aerodynamic noise, curve squeal, braking noise, horn noise and noise from auxiliary equipment and other components. The noise for any given train type strongly depends on the rolling stock design, operating conditions and the track type and condition. Some of the typical sources and where they occur are indicated in Table 1.

Rolling noise is one of the main sources which contains a significant and sometimes dominant noise contribution from the track. This standard is intended to characterise the noise from the unit, minimising the influence of the track. For this reason, rail impact noise, bridge noise and curve squeal are not included. Also noise from trackside warning systems and horns are not included.

Table 1 — Overview of common railway exterior noise sources and typical operating conditions and situations. x = covered in this standard, o=not covered

Source	Operating conditions					Situation	
	Stationary	Acceleration from standstill	Constant speed	Braking to standstill	Braking at speed	Yards/ stations/ stopping locations	Along line
Rolling noise, incl. tracks and bridges		o	x	o	o	x	x
Traction noise, incl. auxiliary equipment	x	x	x	x	o	x	x
Arodynamic noise			x		o		x
Curve squeal		o	o	o		o	o
Brake screech				x		x	x
Brake friction				X	o	x	x
Impact noise (track)		o	o	o		o	o
Impact noise (coupling)	o					o	
Compressors and valve	x	o	o	o	o	x	
Horns	o	o	o	o	o	x	o

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1 Scope

This European Standard specifies the measurement method and conditions to obtain reproducible and comparable exterior noise emission levels and spectra for all kinds of railbound vehicles operating on rails or other types of fixed track, hereinafter conventionally called “unit”.

This standard is applicable to type testing of units. It does not include all the instructions to characterize the noise emission of the other infrastructure related sources (bridges, crossings, switching, impact noise, curving noise, etc),

This standard is not applicable to :

— the noise emission of track maintenance units while working,

— environmental impact assessment

— noise immission assessment

— warning signal noise.

The results may be used, for example:

— to characterise the exterior noise emitted by trains

— to compare the noise emission of various units on a particular track section

— to collect basic source data for trains.

The type testing procedures specified in this European Standard are of engineering grade (grade 2, with a precision of ± 2 dB), that is the preferred one for noise declaration purposes, as defined in EN ISO 12001. If test conditions (e.g. : vehicle and/or track conditions, measuring conditions) are relaxed for example as done for trackside monitoring of in-service trains, then the results are no longer of engineering grade.

The procedures specified for accelerating and decelerating tests are of survey grade (see EN ISO 12001).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 60942, *Electroacoustics — Sound calibrators (IEC 60942:2003)*

EN 61260, *Electroacoustics — Octave-band and fractional-octave-band filters (IEC 61260:1995)*

EN 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672-1:2002)*

EN 61672-2, *Electroacoustics — Sound level meters — Part 2: Pattern evaluation tests (IEC 61672-2:2003)*

EN ISO 266, *Acoustics — Preferred frequencies (ISO 266:1997)*

EN ISO 12001, *Acoustics — Noise emitted by machinery and equipment — Rules for the drafting and presentation of a noise test code*

EN 13452-1, *Railway applications — Braking — Mass transit brake systems — Part 1: Performance requirements*

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