

Akustika. Raudteelased rakendused. Raudteeveeremi tekitatud müra mõõtmine

Acoustics - Railway applications - Measurement of noise emitted by railbound vehicles (ISO 3095:2013)

EESTI STANDARDI EESSÕNA

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English Version

Acoustics - Railway applications - Measurement of noise emitted by railbound vehicles (ISO 3095:2013)

Acoustique - Applications ferroviaires - Mesurage du bruit
émis par les véhicules circulant sur rails (ISO 3095:2013)

Bahnanwendungen - Akustik - Messung der
Geräuschemission von spurgebundenen Fahrzeugen (ISO
3095:2013)

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Foreword

This document (EN ISO 3095:2013) 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 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of an identical text or by endorsement, at the latest by February 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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Endorsement notice

The text of ISO 3095:2013 has been approved by CEN as EN ISO 3095:2013 without any modification.

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Introduction

Railway exterior noise is encountered both along open track and in and around depots, stops, stations and other holding locations. It includes a number of different physical sources such as rolling noise, impact noise, traction noise, aerodynamic noise, curving noise, 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.

Rolling noise is one of the main sources which contain a significant and sometimes dominant noise contribution from the track. This International Standard is intended to characterize the noise emission from the unit, minimizing the influence of the track.

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

1 Scope

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

This International 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 International Standard is not applicable to:

- the noise emission of track maintenance units while working;
- environmental impact assessment;
- noise immission assessment;
- guided buses;
- warning signal noise.

The results may be used, for example:

- to characterize the exterior noise emitted by units;
- to compare the noise emission of various units on a particular track section;
- to collect basic source data for units.

NOTE 1 The type testing procedures specified in this International Standard are of engineering grade (grade 2), that is the preferred one for noise declaration purposes, as defined in ISO 12001. If test conditions (e.g. vehicle and/or track conditions, measuring conditions) are relaxed (e.g. as done for trackside monitoring of in-service trains), then the results are no longer of engineering grade.

NOTE 2 The procedures specified for accelerating and decelerating tests are of survey grade, see ISO 12001.

NOTE 3 Additional guidance is provided in [Annex D](#) for measurements in the specific case of light rail vehicles.

2 Normative references

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

IEC 60942:2003, *Electroacoustics — Sound calibrators*

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

IEC 61260:1995/Amd. 1:2001, *Electroacoustics — Octave-band and fractional-octave-band filters — Amendment 1*

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

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