

Raudteealased rakendused. Müraemissioon. Veeremüra tekkega seotud rööpa pinnakareduse mõõtmine

Railway applications - Noise emission - Rail roughness measurement related to rolling noise generation

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15610:2009 sisaldab Euroopa standardi EN 15610:2009 ingliskeelset teksti.

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English Version

Railway applications - Noise emission - Rail roughness measurement related to rolling noise generation

Applications ferroviaires - Bruit à l'émission - Mesurage de
la rugosité des rails relative à la génération du bruit de
roulement

Bahnanwendungen - Geräuschemission - Messung der
Schienenrauheit im Hinblick auf die Entstehung von
Rollgeräusch

This European Standard was approved by CEN on 16 April 2009.

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Foreword

This document (EN 15610:2009) 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of an identical text or by endorsement, at the latest by November 2009, and conflicting national standards shall be withdrawn at the latest by November 2009.

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For relationship with EC Directive(s), see informative Annex ZA, which is an integral part of this document.

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1 Scope

1.1 This European Standard specifies a direct method for characterizing the surface roughness of the rail associated with rolling noise ("acoustic roughness"), in the form of a one-third octave band spectrum.

This standard describes a method for:

- a) selecting measuring positions;
- b) data acquisition;
- c) measurement data processing in order to estimate a set of one-third octave band roughness spectra;
- d) presentation of this estimate for comparison with limits of acoustic roughness;
- e) comparison with a given upper limit in terms of a one-third octave band wavelength spectrum.

1.2 It is applicable to the:

- a) performance testing of reference track sections for the measurement, within a period of three months before or after roughness characterization, of noise emitted by railway vehicles for acceptance testing purposes;
- b) acceptance of the rail surface condition only in the case where the result of the direct measurement of the acoustic roughness is regarded as an established acceptance criterion.

1.3 It is not applicable to the:

- a) measurement of rail roughness using an indirect method;
- b) measurement of combined wheel-rail roughness;
- c) analysis of the effect of wheel-rail interaction, such as a "contact filter";
- d) approval of rail reprofiling, including rail grinding operations, except for those where the acoustic roughness (and not the level of corrugation) is an established approval criterion;
- e) characterization of track geometry.

Testing and approval of measuring apparatus are not part of the scope of this standard.

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

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