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NSAI Standards

Irish Standard
I.S. EN ISO 3381:2011

Railway applications - Acoustics - Measurement of noise inside railbound vehicles (ISO 3381:2005)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 3381

March 2011

ICS 17.140.30; 45.020

Supersedes EN ISO 3381:2005

English Version

Railway applications - Acoustics - Measurement of noise inside railbound vehicles (ISO 3381:2005)

Applications ferroviaires - Acoustique - Mesurage du bruit à l'intérieur des véhicules circulant sur rails (ISO 3381:2005)

Bahnanwendungen - Akustik - Geräuschmessungen in spurgebundenen Fahrzeugen (ISO 3381:2005)

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Foreword

The text of ISO 3381:2005 has been prepared by Technical Committee ISO/TC 43 “Acoustics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 3381:2011 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of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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

This document supersedes EN ISO 3381:2005.

This document has been prepared under a mandate given to CEN/CENELEC/ETSI by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2008/57/EC.

For relationship with EU Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

The “Recast” Directive 2008/57/EC of the European Parliament and of the Council on the interoperability of the rail system within the Community was published on 17th June 2008. The two previous EU directives 96/48/EC and 2001/16/EC on the interoperability of the High Speed and Conventional rail systems within the Community will therefore be repealed with effect from 19th July 2010. At this date the harmonised standards for the railway field will have to refer to the new Directive.

Annex ZA is amended to address this need.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 3381:2005 has been approved by CEN as a EN ISO 3381:2011 without any modification.

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Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC

This European Standard has been prepared under a mandate given to CEN/CENELEC/ETSI by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the Directive 2008/57/EC[1)].

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZA.1 for High Speed Rolling Stock and Table ZA.2 for Conventional Rolling Stock Noise confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

1) This Directive 2008/57/EC adopted on 17 June 2008 is a recast of the previous Directives 96/48/EC ‘Interoperability of the trans-European high-speed rail system’ and 2001/16/EC ‘Interoperability of the trans-European conventional rail system’ and revisions thereof by 2004/50/EC ‘Corrigendum to Directive 2004/50/EC of the European Parliament and of the Council of 29 April 2004 amending Council Directive 96/48/EC on the interoperability of the trans-European high-speed rail system and Directive 2001/16/EC of the European Parliament and of the Council on the interoperability of the trans-European conventional rail system’

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Table ZA.1 — Correspondence between this European Standard, the HS TSI RST published in the OJEU dated 26 March 2008 and Directive 2008/57/EC

Clause/ subclauses of this European Standard	Chapter/§/annexes of the TSI	Corresponding text, articles/§/annexes of the Directive 2008/57/EC	Comments
The whole standard is applicable except clause 6.3.4 b) dealing with the noise measurement inside driver's cabs.		Annex III, Essential requirements 1 General requirements 1.4 Environmental protection 1.4.4. Operation of the rail system must respect existing regulations on noise pollution	The HS TSI RST as well as the CR TSI Noise consider interior noise as an interoperable issue only in the limited case of the driver's cab. For the interior noise of the driver's cab, the TSIs give limit values; the measurement will be detailed in EN 15892. Therefore, the Annex ZA for EN ISO 3381 excludes all clauses in EN ISO 3381 related to the measurements inside driver's cabs. For the HS TSI RST as well as the CR TSI Noise, the draft ERA Application Guides designate EN ISO 3381 as a voluntary standard.

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Table ZA.2 — Correspondence between this European Standard, the CR TSI Noise published in the OJEU dated 23 December 2005 and Directive 2008/57/EC

Clause/ subclauses of this European Standard	Chapter/§/annexes of the TSI	Corresponding text, articles/§/annexes of the Directive 2008/57/EC	Comments
The whole standard is applicable except clause 6.3.4 b) dealing with the noise measurement inside driver's cabs.		Annex III, Essential requirements 1 General requirements 1.4 Environmental protection 1.4.4. Operation of the rail system must respect existing regulations on noise pollution	The HS TSI RST as well as the CR TSI Noise consider interior noise as an interoperable issue only in the limited case of the driver's cab. For the interior noise of the driver's cab, the TSIs give limit values; the measurement will be detailed in EN 15892. Therefore, the Annex ZA for EN ISO 3381 excludes all clauses in EN ISO 3381 related to the measurements inside driver's cabs. For the HS TSI RST as well as the CR TSI Noise, the draft ERA Application Guides designate EN ISO 3381 as a voluntary standard.

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

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I.S. EN ISO 3381:2011

INTERNATIONAL STANDARD

ISO 3381

Second edition
2005-08-15

Railway applications — Acoustics — Measurement of noise inside railbound vehicles

Applications ferroviaires — Acoustique — Mesurage du bruit à l'intérieur des véhicules circulant sur rails

Reference number
ISO 3381:2005(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 3381 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read “...this European Standard...” to mean “...this International Standard...”.

This second edition cancels and replaces the first edition (ISO 3381:1976), which has been technically revised.

For the purposes of this International Standard, the CEN annex regarding fulfilment of European Council Directives has been removed.

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Foreword

This European Standard (EN ISO 3381:2005) 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 2006, and conflicting national standards shall be withdrawn at the latest by February 2006.

This document has been prepared under a mandate given to CEN/CENELEC/ETSI by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 96/48.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope

This European Standard specifies the conditions for obtaining reproducible and comparable measurement results of levels and spectra of noise inside all kinds of vehicles on rails or other types of fixed track, hereinafter conventionally called “train”, except for track maintenance vehicles in operation.

This standard is applicable for:

— type testing;

— periodic monitoring testing.

The results may be used, for example:

— to characterise the noise inside these vehicles;

— to compare the internal noise of various vehicles on a particular track section.

The test 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.

The standard describes tests during different operating conditions, i.e. driving, accelerating, decelerating and standstill. The chosen operating conditions are decided by the relevant authority or the train owner/operator. It is not mandatory to perform tests at all conditions.

Infrasound and messages intelligibility are not treated in this standard.

The procedures specified for accelerating and decelerating tests are of survey grade.

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 61672-1:2003, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672-1:2002)*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
type test for noise emission of railbound vehicles
type test
measurement performed to prove that, or to check if, a vehicle delivered by the manufacturer complies with the noise specifications

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