SVENSK STANDARD SS-EN IEC 61133

Fastställd	Utgåva	Sida	Ansvarig kommitté
2022-05-18	1	1 (1+69)	SEK TK 9

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Järnvägsanläggningar – Provning av rullande materiel efter tillverkning och före idrifttagning

Railway applications – Rolling stock – Testing of rolling stock on completion of construction and before entry into service

Som svensk standard gäller europastandarden EN IEC 61133:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 61133:2021.

Nationellt förord

Europastandarden EN IEC 61133:2021

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61133, Third edition, 2016 - Railway applications - Rolling stock - Testing of rolling stock on completion of construction and before entry into service**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 50215, utgåva 2, 2010, gäller ej fr o m 2024-11-29.

ICS 45.060.00

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61133

December 2021

ICS 45.060

Supersedes EN 50215:2009 and all of its amendments and corrigenda (if any)

English Version

Railway applications - Rolling stock - Testing of rolling stock on completion of construction and before entry into service (IEC 61133:2016)

Applications ferroviaires - Matériel roulant - Essais sur matériel roulant après achèvement et avant mise en service (IEC 61133:2016)

Bahnanwendungen - Fahrzeuge - Prüfung von Bahnfahrzeugen nach Fertigstellung und vor Indienststellung (IEC 61133:2016)

This European Standard was approved by CENELEC on 2021-11-29. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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Ref. No. EN IEC 61133:2021 E

European foreword

This document (EN IEC 61133:2021) consists of the text of IEC 61133:2016 prepared by IEC/TC 9 "Electrical equipment and systems for railways".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2022-11-29
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2024-11-29

This document supersedes EN 50215:2009 and all of its amendments and corrigenda (if any).

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

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

Endorsement notice

The text of the International Standard IEC 61133:2016 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60077	series	Railway applications - Electric equipment for rolling stock	EN 60077	series
IEC 60310	2016	Railway applications - Traction transformers and inductors on board rolling stock	EN 60310	2016
IEC 60322	2001	Railway applications - Electric equipment for rolling stock - Rules for power resistors of open construction	EN 60322	2001
IEC 60349	series	Electric traction - Rotating electrical machines for rail and road vehicles	EN 60349	series
IEC 60494-1	2013	Railway applications - Rolling stock - Pantographs - Characteristics and tests - Part 1: Pantographs for main line vehicles	EN 50206-1	2010
IEC 60494-2	2013	Railway applications - Rolling stock - Pantographs - Characteristics and tests - Part 2: Pantographs for metros and light rail vehicles	EN 50206-2	2010
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 +AC +A1 +A2 +AC +AC	1991 1993 2000 2013 2016 2019
IEC 60571	2012	Railway applications - Electronic equipment used on rolling stock	EN 50155	2021[1]

[1] For this standard, the directly equivalent European standard has been withdrawn; the standard listed is the current version.

Publication	Year	Title	EN/HD	Year
IEC 60850	2014	Railway applications - Supply voltages of traction systems	EN 50163	2004
			+ A1	2007
			+ corrigendum May	2010
			+ AC	2013
			+ A2	2020
IEC 61287	series	Railway applications - Power converters installed on board rolling stock	EN 61287	series
IEC 61377-1	-	Electric traction - Rolling stock - Combined testing - Part 1: Combined testing of inverter-fed alternating current motors and their control	EN 61377	-
IEC 61377-2	-	Railway applications - Rolling stock - Combined testing - Part 2: Chopper-fed direct current traction motors and their control	EN 61377	-
IEC 61377-3	-	Railway applications - Rolling stock - Part 3: Combined testing of alternating current motors, fed by an indirect convertor, and their control system	EN 61377	-
IEC 61991	2000	Railway applications - Rolling stock - Protective provisions against electrical hazards	EN 50153	2014[1]
			+ A1	2017[1]
			+ A2	2020[1]
IEC 62236-3-1	2008	Railway applications - Electromagnetic compatibility - Part 3-1: Rolling stock - Train and complete vehicle	EN 50121-3-1	2017[1]
			+ A1	2019[1]
IEC 62236-3-2	2008	Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock - Apparatus	EN 50121-3-2	2016[1]
			+ A1	2019[1]
IEC 62278	2002	Railway applications - Specification and demonstration of reliability, availability, maintainability and safety (RAMS)	EN 50126-1	2017[1]
			EN 50126-2	2017[1]
IEC 62313	2009	Railway applications - Power supply and rolling stock - Technical criteria for the coordination between power supply (substation) and rolling stock	EN 50388	2012[1]
			+ AC	2013[1]
IEC 62425	-	Railway applications - Communication, signalling and processing systems - Safety related electronic systems for signalling	EN 50129	-
IEC 62427	2007	Railway applications - Compatibility between rolling stock and train detection systems	EN 50238-1	2019[1]
IEC 62845	-	Railway applications - Radio remote control system of traction vehicles for shunting application	EN 50239	-

Publication	Year	Title	EN/HD	Year
IEC 62846	-	Railway applications - Current collection systems - Requirements for and validation of measurements of the dynamic interaction between pantograph and overhead contact line	EN 50317	-
ISO/IEC 17025	-	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	-
ISO 3095	-	Acoustics - Railway applications - Measurement of noise emitted by railbound vehicles	EN ISO 3095	-
ISO 3381	-	Railway applications - Acoustics - Measurement of noise inside railbound vehicles	EN ISO 3381	-
ISO 9001	2015	Quality management systems - Requirements	EN ISO 9001	2015

IEC 61133

Edition 3.0 2016-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Railway applications – Rolling stock – Testing of rolling stock on completion of construction and before entry into service

Applications ferroviaires – Matériel roulant – Essais de matériel roulant après achèvement et avant mise en service

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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RAILWAY APPLICATIONS – ROLLING STOCK – TESTING OF ROLLING STOCK ON COMPLETION OF CONSTRUCTION AND BEFORE ENTRY INTO SERVICE

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61133 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This standard is derived from EN 50215.

This third edition cancels and replaces the second edition, published in 2006; it constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- References to standards other than international have been removed from the main text so the notes refer solely to Annex B;
- Annex B has been updated with the latest European information, and cross-references between the TSIs and ENs and the clauses of IEC 61133 have been added.

The text of this standard is based on the the second edition and the following documents:

FDIS	Report on voting
9/2096/FDIS	9/2132/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

RAILWAY APPLICATIONS – ROLLING STOCK – TESTING OF ROLLING STOCK ON COMPLETION OF CONSTRUCTION AND BEFORE ENTRY INTO SERVICE

1 Scope

This International Standard specifies general criteria to demonstrate by testing that newly constructed complete railway vehicles conform with standards or other normative documents.

This International Standard, as a whole or in part, applies to all railway vehicles except special purpose vehicles such as track-laying machines, ballast cleaners and personnel carriers. The extent of application of the standard for particular vehicles will be specifically mentioned in the contract, to take account, where necessary, of any legislative requirements.

NOTE 1 The parts of the standard which are applicable will depend on the type of vehicle (e.g. passenger, freight, powered trailer, etc.).

NOTE 2 The scope of this standard excludes railbound and road/rail vehicles for construction and maintenance of railway infrastructure.

NOTE 3 This standard does not deal with tests carried out on components or equipment before fitting to the vehicle.

In so far as this International Standard is applicable, it may be used for the following:

– generator sets mounted on a vehicle provided for auxiliary purposes;
– electrical transmission used on trolley buses or similar vehicles;
– control and auxiliary equipment of vehicles with non-electrical propulsion systems;
– vehicles guided, supported or electrically propelled by systems which do not use the adhesion between wheel and rail.

NOTE 4 Specific technical requirements apply to vehicles which operate on the railways in the European Union. The source of those requirements is given in Annex B. Where a European requirement applies to a given clause, a note has been inserted at the end of the clause.

2 Normative references

The following 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 60077 (all parts), *Railway applications – Electric equipment for rolling stock*

IEC 60310:2015, *Railway applications – Traction transformers and inductors on board rolling stock*

IEC 60322:2001, *Railway applications – Electric equipment for rolling stock – Rules for power resistors of open construction*

IEC 60349 (all parts), *Electric traction – Rotating electrical machines for rail and road*

IEC 60494-1:2013, *Railway applications – Rolling stock – Pantographs – Characteristics and tests – Part 1: Pantographs for main line vehicles*

IEC 60494-2:2013, *Railway applications – Rolling stock – Pantographs – Characteristics and tests – Part 2: Pantographs for metros and light rail vehicles*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60571:2012, *Railway applications – Electronic equipment used on rolling stock*

IEC 60850:2014, *Railway applications – Supply voltages of traction systems*

IEC 61287 (all parts), *Railway applications – Power convertors installed on board rolling stock*

IEC 61377-1, *Railway applications – Rolling stock – Part 1: Combined testing of inverter-fed alternating current motors and their control system*

IEC 61377-2, *Railway applications – Rolling stock – Combined testing – Part 2: Chopper-fed direct current traction motors and their control*

IEC 61377-3, *Railway applications – Rolling stock – Part 3: Combined testing of alternating current motors, fed by an indirect converter, and their control system*

IEC 61991:2000, *Railway applications – Rolling stock – Protective provisions against electrical hazards*

IEC 62236-3-1:2008, *Railway applications – Electromagnetic compatibility – Part 3-1: Rolling stock – Train and complete vehicle*

IEC 62236-3-2:2008, *Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus*

IEC 62278:2002, *Railway applications – Specification and demonstration of reliability, availability, maintainability and safety (RAMS)*

IEC 62313:2009, *Railway applications – Power supply and rolling stock – Technical criteria for the coordination between power supply (substation) and rolling stock*

IEC 62425, *Railway applications – Communication, signalling and processing systems – Safety related electronic systems for signalling*

IEC 62427:2007, *Railway applications – Compatibility between rolling stock and train detection systems*

IEC 62845, *Railway applications – Radio remote control system of traction vehicles for shunting application*

IEC 62846, *Railway applications – Current collection systems – Requirements for and validation of measurements of the dynamic interaction between pantograph and overhead contact line*[1]

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

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1 To be published.

ISO 3095, *Acoustics – Railway applications – Measurement of noise emitted by railbound vehicles*

ISO 3381, *Railway applications – Acoustics – Measurement of noise inside railbound vehicles*

ISO 9001:2015, *Quality management systems – Requirements*

NOTE For applications in the European Union, see also the references in Annex B.