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## Järnvägsanläggningar – Provning av rullande materiel efter tillverkning och före idrifttagning

*Railway applications –*

*Rolling stocks –*

*Testing of rolling stock after completion of construction and before entry into service*

Som svensk standard gäller europastandarden EN 50215:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50215:2009.

### Nationellt förord

Tidigare fastställd svensk standard SS-EN 50215, utgåva 1, 1999, gäller ej fr o m 2012-07-01.

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ICS 45.060.01

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Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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### **SEK Svensk Elstandard**

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English version

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

Applications ferroviaires -  
Matériel roulant -  
Essais sur matériel roulant  
après achèvement  
et avant mise en service

Bahnanwendungen -  
Bahnfahrzeuge -  
Prüfung von Bahnfahrzeugen  
nach Fertigstellung  
und vor Indienststellung

This European Standard was approved by CENELEC on 2009-07-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

This European Standard was prepared by SC 9XB, Electromechanical material on board rolling stock, of Technical Committee CENELEC TC 9X, Electrical and electronic applications for railways.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50215 on 2009-07-01.

This European Standard supersedes EN 50215:1999.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2010-07-01
  - latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2012-07-01
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## 1 Scope

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

This standard is intended to be used as technical instructions for the processing of tests which may be needed for demonstration of certain technical requirements where they are relevant.

This standard is not intended to be used as a list of approval requirements without consideration of aforementioned technical requirements.

This 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.

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 standard is applicable it may be used for the following:

- generator sets mounted on a vehicle provided for auxiliary purposes;
- the 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.

## 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 12663:2000, *Railway applications - Structural requirements of railway vehicle bodies*

EN 13129-2:2004, *Railway applications - Air conditioning for main line rolling stock - Part 2: Type tests*

EN 13272:2001, *Railway applications - Electrical lighting for rolling stock in public transport systems*

EN 13452-2:2003, *Railway applications - Braking - Mass transit brake systems - Part 2: Methods of test*

EN 13775-1:2003, *Railway applications - Measuring of new and modified freight wagons - Part 1: Measuring principles*

EN 13775-2:2003, *Railway applications - Measuring of new and modified freight wagons - Part 2: Freight wagons with bogies*

EN 13775-3:2003, *Railway applications - Measuring of new and modified freight wagons - Part 3: Freight wagons with 2 wheelsets*

EN 13775-4:2004, *Railway applications - Measuring of new and modified freight wagons - Part 4: Bogies with 2 wheelsets*

- EN 13775-5:2003, *Railway applications - Measuring of new and modified freight wagons - Part 5: Bogies with 3 wheelsets*
- EN 13775-6:2004, *Railway applications - Measuring of new and modified freight wagons - Part 6: Multiple and articulated freight wagons*
- EN 14067-4:2005, *Railway applications - Aerodynamics - Part 4: Requirements and test procedures for aerodynamics on open track*
- EN 14067-5:2006, *Railway applications - Aerodynamics - Part 5: Requirements and test procedures for aerodynamics in tunnels*
- EN 14363:2005, *Railway applications - Testing for the acceptance of running characteristics of railway vehicles - testing of running behaviour and stationary tests*
- EN 14531-1:2005, *Railway applications - Braking - Methods for calculation of stopping distances, slowing distances and immobilisation braking - Part 1: General algorithms*
- EN 14750-2:2006, *Railway applications - Air conditioning for urban and suburban rolling stock - Part 2: Type tests*
- EN 14752:2005, *Railway applications - Bodyside entrance systems*
- EN 14813-2:2006, *Railway applications - Air conditioning for driving cabs - Part 2: Type tests*
- EN 15806 <sup>1)</sup>, *Railway application - Braking - Static brake testing*
- EN 50121-3-1:2006, *Railway applications - Electromagnetic compatibility - Part 3-1: Rolling stock - Train and complete vehicle*
- EN 50121-3-2:2006, *Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock - Apparatus*
- EN 50126-1:1999, *Railway applications - The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 1: Basic requirements and generic process*
- EN 50153:2002, *Railway applications - Rolling stock - Protective provisions relating to electrical hazards*
- EN 50155:2007, *Railway applications - Electronic equipment used on rolling stock*
- EN 50163:2004, *Railway applications - Supply voltages of traction systems*
- EN 50206-1:1998, *Railway applications - Rolling stock - Pantographs: Characteristics and tests - Part 1: Pantographs for main line vehicles*
- EN 50206-2:1999, *Railway applications - Rolling stock - Pantographs: Characteristics and tests - Part 2: Pantographs for metros and light rail vehicles*
- EN 50238:2003, *Railway applications - Compatibility between rolling stock and train detection systems*
- EN 50317:2002 (+ A1:2004 + A2:2007), *Railway applications - Current collection systems - Requirements for and validation of measurements of the dynamic interaction between pantograph and overhead contact line*
- EN 50343:2003, *Railway applications - Rolling stock - Rules for installation of cabling*
- EN 50388:2005, *Railway applications - Power supply and rolling stock - Technical criteria for the coordination between power supply (substation) and rolling stock to achieve interoperability*
- EN 60077-1:2002, *Railway applications - Electric equipment for rolling stock - Part 1: General service conditions and general rules (IEC 60077-1:1999, mod.)*

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<sup>1)</sup> At draft stage.

EN 60077-2:2002, *Railway applications - Electric equipment for rolling stock - Part 2: Electrotechnical components - General rules* (IEC 60077-2:1999, mod.)

EN 60077-3:2003, *Railway applications - Electric equipment for rolling stock - Part 3: Electrotechnical components - Rules for d.c. circuit-breakers* (IEC 60077-3:2001)

EN 60077-4:2003, *Railway applications - Electric equipment for rolling stock - Part 4: Electrotechnical components - Rules for AC circuit-breakers* (IEC 60077-4:2003)

EN 60077-5:2003, *Railway applications - Electrotechnical equipment for rolling stock - Part 5: Electrotechnical components - Rules for HV fuses* (IEC 60077-5:2003)

EN 60310:2004, *Railway applications - Traction transformers and inductors on board rolling stock* (IEC 60310:2004)

EN 60322:2001, *Railway applications - Electric equipment for rolling stock - Rules for power resistors of open construction* (IEC 60322:2001)

EN 60349-1:2000 (+ A1:2002), *Electric traction - Rotating electrical machines for rail and road vehicles - Part 1: Machines other than electronic convertor-fed alternating current motors* (IEC 60349-1:1999 + A1:2002)

EN 60349-2:2001, *Railway applications - Rotating electrical machines for rail and road vehicles - Part 2: Electronic converter-fed alternating current motors* (IEC 60349-2:1993, mod.)

EN 60529:1991 (+ A1:2000), *Degrees of protection provided by enclosures (IP Code)* (IEC 60529:1989 + A1:1999)

EN 61287-1:2006, *Railway applications - Power convertors installed on board rolling stock - Part 1: Characteristics and test methods* (IEC 61287-1:2005)

EN 61377-1:2006, *Railway applications - Rolling stock - Part 1: Combined testing of inverter-fed alternating current motors and their control system* (IEC 61377-1:2006)

EN 61377-2:2002, *Railway applications - Rolling stock - Combined testing - Part 2: Chopper-fed direct current traction motors and their control* (IEC 61377-2:2002)

EN 61377-3:2002, *Railway applications - Rolling stock - Part 3: Combined testing of alternating current motors, fed by an indirect convertor, and their control system* (IEC 61377-3:2002)

EN ISO 3095:2005, *Railway applications - Acoustics - Measurement of noise emitted by railbound vehicles* (ISO 3095:2005)

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

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