

# SVENSK STANDARD

## SS-EN 16235:2013

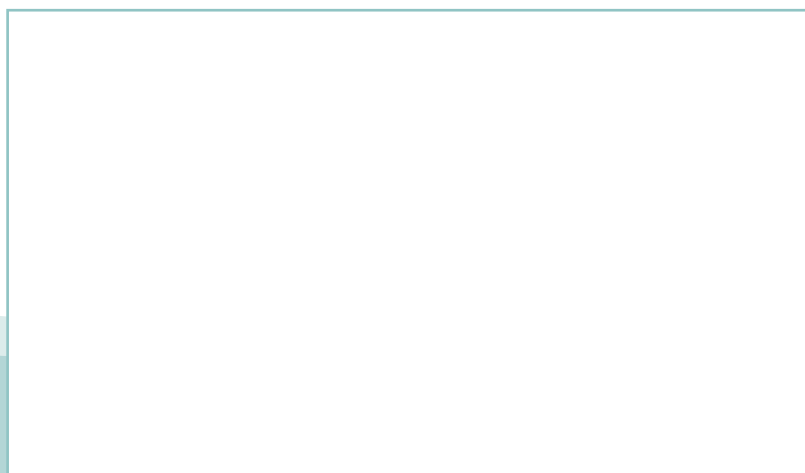


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### **Järnvägar – Acceptans av gångegenskaper hos järnvägsfordon – Godsvagnar – Villkor för undantag av gångprov på godsvagnar med fastställda specifikationer enligt EN 14363**

**Railway application – Testing for the acceptance of running  
characteristics of railway vehicles – Freight wagons –  
Conditions for dispensation of freight wagons with defined  
characteristics from on-track tests according to EN 14363**



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EUROPEAN STANDARD

**EN 16235**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2013

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ICS 45.060.20

English Version

**Railway application - Testing for the acceptance of running characteristics of railway vehicles - Freight wagons - Conditions for dispensation of freight wagons with defined characteristics from on-track tests according to EN 14363**

Applications ferroviaires - Essais en vue de l'homologation du comportement dynamique des véhicules ferroviaires - Wagons - Conditions pour la dispense des wagons avec caractéristiques définies concernant les essais en ligne selon l'EN 14363

Bahnanwendungen - Prüfung für die fahrtechnische Zulassung von Eisenbahnfahrzeugen - Güterwagen - Bedingungen für Güterwagen mit definierten Eigenschaften zur Befreiung von Streckenfahrversuchen nach EN 14363

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN 16235:2013) 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of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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

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

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



## Introduction

EN 14363 defines the requirements for railway vehicles with respect to running behaviour. The approval process in accordance with EN 14363, including the dispensation defined in this standard, is illustrated in normative Annex B (flow chart).

It is recognised that experience has demonstrated that running gear fitted to wagons that operate safely can also be fitted to other wagons which are within certain design limits. These other wagons will also operate safely without the need to undergo on-track testing. This experience is based on the characteristics of track design, track maintenance and vehicle maintenance in the European network since 1998. This document defines the process to determine the conditions under which such dispensation from testing can be given for a vehicle defined by the running gear and its relevant parameters together with the associated parameter limits of wagon bodies.

Vehicles for the transport of freight on the railway have historically been subject to standardisation. Very early common items like wheels, buffers, draw gear, etc. were developed as standardised components to fulfil safety requirements, for achieving ease of repair and maintenance for international traffic and low cost. Freight wagons have a wide range of applications and consequently the parameters will vary. In the UIC work for the standardisation and interchange of freight wagons certain processes for acceptance with respect to running characteristics evolved and these were formalised in UIC 432 and UIC 572 among others. The principles of this standard are similar to the intention of these two leaflets.

**NOTE** Vehicles accepted through the UIC process were also accepted for RIV (Regolamento Internazionale Veicoli) service, i.e. international interchange between the RIV railways. This was replaced by the General Contract of Use for Wagons (GCU) agreement on 1<sup>st</sup> July 2006. Following the Directive 2008/57/EC the Conventional Rail Technical Specification for Interoperability for Freight Wagons (CR TSI WAG) was elaborated, which contains interoperability requirements for freight wagons.

The following principles apply to the use of this standard:

- 1) The railway system requires comprehensive technical rules in order to ensure an acceptable interaction of vehicle and track.
- 2) New railway vehicles are approved (in the UIC 432 the term homologated is used) before being placed into service in accordance with numerous national and international regulations. In addition, existing approval is checked when operating conditions are extended. The approval is based on test results, calculations and/or comparisons with existing vehicles in order to achieve a safety level according to the recognised standards and regulations.
- 3) It is of particular importance that the existing level of safety and reliability is not compromised even when changes in design and operating practices are demanded.

This standard does not prevent the use of the principles laid down applying to other types of rolling stock.

## 1 Scope

This European Standard defines the process to determine the conditions under which dispensation from on-track testing according to EN 14363 can be given to freight wagons. In its application this document specifies the means by which dispensation from on-track tests is possible.

This European Standard is subordinate to EN 14363.

This European Standard is not limited to any type of freight vehicle; however certain types, which have been previously accepted under the auspices of UIC, are considered to have a continuing dispensation from on-track testing. These freight vehicles are detailed within this document.

The dispensation conditions described in this document apply to all freight vehicles used in international, multilateral or national rail freight transportation, which operate without restriction on standard gauge tracks (1 435 mm). The various rail-inclinations used in Europe (1:20, 1:40 and 1:30) are covered by the conditions for dispensation.

**NOTE** The test procedures described in this standard (and in EN 14363) can be applied also to applications with other track gauges e.g. 1 524 mm or 1 668 mm. The limit values could be different, as the details of such networks are not known by the authors of this standard. If established running gear are existing in such restricted networks the related ranges of running gear and vehicle parameters for dispensation from on-track tests might be specified together with the operational parameters (speed, cant deficiency, maximum axle load) based on previous tests and operating experiences. These limit values and parameters will be specified under national responsibility.

This European Standard only contains requirements for characteristics related to requirements for on-track tests specified in EN 14363.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and 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 13715, *Railway applications — Wheelsets and bogies — Wheels — Tread profile*

EN 14363, *Railway applications — Testing for the acceptance of running characteristics of railway vehicles — Testing of running behaviour and stationary tests*

EN 15313, *Railway applications — In-service wheelset operation requirements — In-service and off-vehicle wheelset maintenance*

EN 15551, *Railway applications — Railway rolling stock — Buffers*

EN 15566, *Railway applications — Railway rolling stock — Draw gear and screw coupling*

EN 15687, *Railway applications — Testing for the acceptance of running characteristics of freight vehicles with static axle loads higher than 225 kN and up to 250 kN*

## 3 Terms and definitions

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

**NOTE** Other terms and definition can be found in EN 14363 and EN 13749.

### 3.1

#### **'declaration of conformity' with this standard**

declaration that contains all necessary information for the description of a proven vehicle configuration

### 3.2

#### **standardised running gear**

running gear, bogie or single axle suspension system, which ensures compliance with the requirements related to on-track tests as specified in EN 14363 (for axle loads above 22,5 t also according to EN 15687) for a vehicle that has vehicle body parameters in a defined range

### 3.3

#### **established running gear**

running gear previously approved by UIC for which compliance with Clause 6 of this standard is in place of the 'declaration of conformity' with this standard

### 3.4

#### **homologation file**

file that contains the relevant parameters and their permitted modification range that represents the values of the standardised running gear when assessed according to the requirements of Clause 5 of this standard

### 3.5

#### **bogies of Y25 family**

bogies that are defined by:

- a torsional elastic frame, consisting of two side beams with or without head beam;
- spring suspension with two sets of helical suspension spring (a set may also consist of one spring) per axle box;
- a lateral and vertical dry friction damping depending on part of the vertical load supported by the axle box;
- a wheelset guiding with a maximum allowed nominal lateral displacement of  $\pm 10$  mm

and called for example Y21, Y23, Y25, Y27, Y31, Y33 or Y37

### 3.6

#### **2-axle steering axle bogie family**

steering axle bogie family that is defined by:

- a stiff frame, consisting of two side beams with a head beam;
- a leaf spring mounted in links guiding the axle;
- a nominal longitudinal clearance of the axle guiding of  $\pm 6$  mm;
- a nominal lateral clearance of the axle guiding of  $\pm 23$  mm;

and called for example DB 65, LHB 82, WU 83, Talbot U

### 3.7

#### **3-axle steering axle bogie family**

steering axle bogie family that is defined by:

- a stiff frame, consisting of two side beams with a head beam;
- a leaf spring mounted in links guiding the axle;
- a nominal longitudinal clearance of the axle guiding of  $\pm 10$  mm;
- a nominal lateral clearance of the axle guiding of  $\pm 25$  mm;

and called for example DB 711 to DB 715