SLOVENSKI STANDARD
oSIST prEN 15954-1:2009

01-september-2009

Železniške naprave - Zgornji ustroj - Vlečena vozila za posebne namene in spremljajoča oprema - 1. del: Tehnične zahteve, ki se nanašajo na vožnjo in na delovanje

Railway applications - Track - Trailers and associated equipment - Part 1: Technical requirements for running and working

Bahnanwendungen - Oberbau - Anhänger und zugehörige Ausstattung - Teil 1: Technische Anforderungen an das Fahren und den Arbeitseinsatz

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Applications ferroviaires - Voie - Remorques et éléments associés - Partie 1: Prescriptions techniques pour la circulation et le travail

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Ta slovenski standard je istoveten z: **prEN 15954-1**

ICS:

45.060.20	Železniški vagoni	Trailing stock
45.120	Oprema za gradnjo in vzdrževanje železnic oz. žičnic	Equipment for railway/cableway construction and maintenance

oSIST prEN 15954-1:2009 **en**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 15954-1

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ICS

English Version

Railway applications - Track - Trailers and associated equipment - Part 1: Technical requirements for running and working

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 256.

If this draft becomes a European Standard, CEN 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.

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

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Foreword

This document (prEN 15954-1:2009) has been prepared by Technical Committee CEN/TC 256 “Railway Applications”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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

— Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors[1)].

"*Railway applications — Track — Trailers and associated equipment*" consists of the following parts:

— *Part 1: Technical requirements for running and working;*

— *Part 2: General safety requirements.*

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1) Official Journal of the European Communities No L 134 of 30.04.04

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Introduction

The machinery concerned and the extent to which hazards, hazardous situation and events are covered are indicated in the scope of this document.

This European Standard was prepared to meet the basic requirements of EU Directives to facilitate an open market for goods and services.

Trailers as specified in 3.1 form the object of this standard.

This standard deals with railway specific risks of the trailers, defined in clause 4**,** when running and working on railway infrastructures.

The safety requirements in relation to the Machinery Directive are dealt with in prEN xxxyy-2 of this series of standards.

Deviations or special national conditions are dealt with in Annex B.

The risks which exist in all mechanical, electrical, hydraulic, pneumatic and other components of trailers and which are dealt with in the relevant European Standards are not within the scope of this European Standard. If necessary, references are made to appropriate standards of this type.

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1 Scope

1.1 General

This European Standard deals with the technical requirements to minimize the specific railway hazards of trailers and associated equipment, which can arise during the commissioning, the operation and the maintenance of trailers when carried out in accordance with the specification given by the manufacturer or his authorized representative. This European Standards applies to trailers that are not intended to operate signalling and control systems. Other similar machines are dealt with in other European Standards, see Annex G.

Note Machines not intended for operating signalling and control systems are only permitted to run under special conditions and within areas specifically designated by the infrastructure manager.

Part 1 of this European Standard deals with requirements for approval of the trailer by an authorized body, part 2 deals with requirements for the trailer to be declared conformant by the manufacturer, except in the case of trailers classified in Annex 4 of the Machinery Directive which require conformity check in conjunction with a notified body.

Additional requirements can apply for running on infrastructures with narrow gauge or broad gauge lines, lines of tramways, railways utilizing other than adhesion between the rail and rail wheels, and underground infrastructures.

This European Standard is also applicable for trailers and associated equipment that in working configuration are partly supported on the ballast or the formation.

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Where two or more trailers are used together to transport loads in a fixed formation, e.g. where a metal container is fixed to two small trailers, the whole system shall be treated as a trailer and comply with the requirements of this European Standard.

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This European Standard does not apply to the following:

- requirements for quality of the work or performance of the trailer;
- specific requirements established by the railway infrastructure operator for the use of trailers, which will be the subject of negotiation between the manufacturer and the operator;
- separate machines temporarily mounted on the trailer.

This European Standard does not establish the additional requirements for the following:

- operation subject to special rules, e. g. potentially explosive atmospheres;
- hazards due to natural causes, e. g. earthquake, lightning, flooding etc.;
- working methods;
- operation in severe working conditions requiring special measures, e.g. work in tunnels or in cuttings, extreme environmental conditions such as freezing temperatures, high temperatures, corrosive environment, tropical environment, contaminating environments, strong magnetic fields;
- hazards due to errors in software;
- hazards occurring when used to handle suspended loads which may swing freely.

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NOTE The intended use of these trailers may have operational parameters specified by each infrastructure manager, for example the maximum speed allowed for these trailers is likely to be limited by the infrastructure manager – compliance with the clauses of this standard does not confer permission for trailers to travel at this speed. These trailers will not be allowed on a track open to normal railway traffic.

Other track construction and maintenance machines used on railway tracks are dealt with in other European Standards, see Annex G.

1.2 Validity of this European Standard

This European Standard applies to all trailers, which are ordered one year after the publication date by CEN 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 791, *Drill rigs — safety*

EN 12663:2000, *Railway applications — Structural requirements of railway vehicle bodies*

EN 13309, *Construction machinery — Electromagnetic compatibility of machines with internal electrical power supply*

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EN 13715, *Railway applications — Wheelsets and bogies — Wheels — Wheels tread*

prEN 14033-1:2008, *Railway applications — Track — Railbound construction and maintenance machines — Part 1: Technical requirements for running*

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EN 14033-2:2008, *Railway applications — Track — Railbound construction and maintenance machines — Part 2: Technical requirements for working*

EN 14363:2005, *Railway applications — Testing for the acceptance of running characteristics of railway vehicles — Testing of running behaviour and stationary tests*

EN 14601; *Railway applications — Straight and angled end cocks for brake pipe and main reservoir pipe*

prEN 15273-2:2005, *Railway Applications — Gauges — Part 2: Rolling stock gauge*

prEN 15746-1:2008, *Railway applications — Track — Trailers and associated equipment — Part 1: Technical requirements for running and working*

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 50122-1, *Railway applications — Fixed installations — Part 1: Protective provisions relating to electrical safety and earthing*

EN 60947 series, *Low-voltage switchgear and controlgear*

prEN xxxyy-2:2009, *Railway applications — Track — Trailers and associated equipment — Part 1: Technical requirements for running and working*

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prEN xxxzz-1:2009, *Railway applications — Track — Demountable machines and associated equipment — Part 1: Technical requirements for running and working*

prEN xxxzz-2:2009, *Railway applications — Track — Demountable machines and associated equipment — Part 2: General safety requirements*

EN ISO 12100 series, *Safety of machinery — Basic concepts, general principles for design*

ISO 6016, *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components*

ISO 6746-1, *Earth-moving machinery — Definitions of dimensions and codes — Part 1: Base machine*

ISO 6746-2, *Earth-moving machinery — Definitions of dimensions and codes — Part 2: Equipment and attachments*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100 series and the following apply.

3.1
trailer
non-self propelled machine that can be hauled on rail wheels

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NOTE Trailers are not intended to operate signalling and control systems and are not designed to be transported between work areas on their rail wheels.

3.2
road-rail trailer
trailer with additional road wheels to enable the trailer to be hauled on both rails and ground

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3.3
road-rail machine
self propelled machine that can run on rails and ground

NOTE 1 It is normally a road vehicle adapted for running on rail also, but can be a specially designed rail vehicle for running on the ground also.

NOTE 2 It does not imply that the machine is suitable for use on the public road.

3.4
demountable machine
machine that can run and work on rail and which is not intended to operate signalling and control systems

NOTE 1 Such a machine is designed to get on and off track by its own means or with other lifting equipment. In the case of demounting by its own means these are not intended for running on the ground.

NOTE 2 Such a machine is permitted to work on the railway only under special operating conditions granted by the infrastructure manager and run under special conditions granted by the authorising body and/or the infrastructure manager.

3.5
railbound machine
machine that can run and work only on rail and is transported on its rail wheels. The machine is specifically designed to operate signalling and control systems and is intended for infrastructure work. The machine can be self propelled or hauled

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3.6
trolley
equipment for transport along track of materials, tools and/or various equipment, moving on wheels or runners and operated only by human force. It is designed so that it can be manually placed on or off the track

3.7
portable machine
machine designed or adapted to be worked on the track, transportable by hand with or without trolleys or separate supports for movement on rail(s), and be operated by internal combustion, electrical, mechanical, hydraulic, pneumatic energy sources or from an external supply, but is not powered for movement along track. It is designed so that the machine and/or its separate component parts may be manually placed on or off the track

3.8
mobile elevating work platform
(MEWP)
mobile machine that is intended to move persons to working positions where they are carrying out work from the work platform with the intention that persons are getting on and off the work platform at one defined access position and which consists as a minimum of a work platform with controls, an extending structure and a chassis

3.9
host vehicle
basic road vehicle or machine which is converted to run additionally on rails

3.10
general attachment
components or assembly of components which can be mounted onto the trailer or equipment for a specific use

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NOTE See ISO 6746-1, ISO 6746-2 and ISO 6016.

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3. 11
railway specific attachment
equipment that is capable of being temporarily fixed to and/or powered from a road rail machine or demountable machine but specifically excludes lifting accessories

3.12
lifting accessory
lifting accessory means loose lifting tackle, i. e. components or equipment not attached to the trailer and placed between the machinery and the load or on the load in order to attach it

3.13
manufacturer
body that designs and constructs a trailer, or converts the original machine to a trailer

3.14
running configuration
state of trailer when it is on the rail and all movable parts are stowed and secured within the applicable kinematic gauge in accordance with prEN 15273-2 and its acceptable exceedance, see 5.4.1 and 5.4.2

3.15
working configuration
trailer is said to be in working configuration as soon as any part of the trailer or its equipment is away from the running configuration

3.16
on and off tracking configuration
configuration of the trailer when it is in a state that enables it to be on or off tracked

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3.17
running
moving the trailer in running configuration along the track

3.18
stationary
standing on the track with the rail wheels not rotating

3.19
operating track
track corresponding to the criteria of the infrastructure manager on which vehicles may run under normal signalling arrangements (with or without a speed limit)

3.20
working track
track that is being maintained for which the geometrical parameters may reach the limiting values as specified in EN 14033-2:2008, Annex F and for which special operational restrictions may apply

3.21
railway infrastructure
all installations required for the running of railway vehicles

EXAMPLE Tracks, crossings, catenaries, signals.

3.22
operator
person who handles the controls of a machine in order to perform the functions of the machine including towing or controlling a trailer(s)

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3.23
train
self propelled vehicle/machine or assembly of vehicles/machines attached by couplings conforming to the relevant regulations of the authorised body and/or infrastructure manager

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3.24
special train
assembly of vehicles/machines/trailers attached by couplings conforming to the relevant regulations of the infrastructure manager, for example an assembly of trailers and/or wagons and/or category 3, 5, 7 machines described in prEN 14033-1 attached to a trailer under conditions prescribed by the infrastructure manager

3.25
working limit contour
limit in which a trailer can work without interfering with the kinematic envelope of trains on adjacent tracks

NOTE See EN 14033-2:2008, Annex D.

3.26
rated load
maximum load that the lifting equipment has been designed for normal operation and the manufacturer states can be lifted in any specified position

3.27
authorised body
body in a state that, in accordance with the laws and prescriptions in force in that state, is competent to approve rail vehicles for the use in public rail traffic

3.28
type testing
examination of the first trailer, of a new type, for build conformity to the requirements of this standard

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3.29
type conformity
consists of an examination of the conformity, of each trailer, to the all the safety requirements of this standard before delivery of the trailer

3.30
type approval certificate
document issued after the checking of documents and/or testing of trailers in which the agreement of the use of the trailer in the railway infrastructure is confirmed

3.31
type conformance certificate
document, which states that the trailer conforms to the design of the first trailer of the type that has been approved

3.32
railway undertaking
any private or public undertaking whose main business is to provide rail transport services for goods and/ or passengers

3.33
infrastructure manager
any public body or undertaking responsible for establishing and maintaining railway infrastructure, as well as for operating the railway control and safety systems

3.34
access permit
document issued by the infrastructure manager for an approved trailer to run on the railway infrastructure, if necessary with special access conditions

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3.35
supplement to the access permit
supplement to an existing access permit which allows the use of the trailer in another CEN-member country, if necessary taking into account special access requirements

3.37
working agreement
working agreement is a procedure that enables a trailer to work on one railway infrastructure. This procedure consists of two parts:

a) the proof of conformity with the safety requirements, as specified in prEN xxxyy-2 (EC declaration of conformity), given by the manufacturer;

b) the proof of conformity with the railway specific requirements, as specified in this standard prEN xxxyy-1 given by an authorised body of the infrastructure manager

3.38
working authorisation
authorisation given by an infrastructure manager which permits a trailer to work on that railway infrastructure

3.39
methods of examination
are indicated in Table C.1, which consists of visual exams, measurements, functional tests, load test(s), specific verification/measurements and other controls

3.40
visual exam
to establish, whether all elements on the machine, system or component, e. g. protective devices, visual warning device, marking, are present and that documents and drawings correspond to the requirements

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3.41
measurement test
to establish whether the stated measurable parameters have met the requirements of this standard, e. g. geometric dimensions, safety distances, insulation resistance of electric circuits, noise, vibration

3.42
functional test
to establish whether, in unloaded working condition the trailer, including all safety devices, works as intended and all functions comply with the requirements and with the technical documentation

3.43
load test(s)
to establish whether the strength and stability of the equipment under load together with all safety devices and adjustments meets the requirements of this standard

3.44
specific verification/ measurements
to establish whether the stated requirements of this standard have been met, eg calculations, technical documentation and specific documents of this standard

4 Trailer categorisation

4.1 Categories

4.1.1 Category 0

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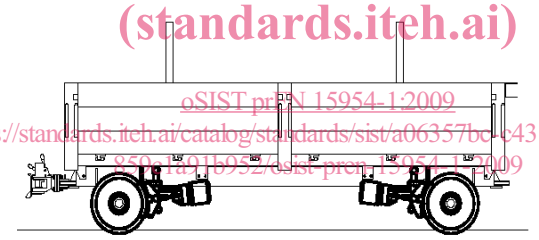

Figure 1 — Example of category 0 trailer a box trailer with service and parking/break-away brake

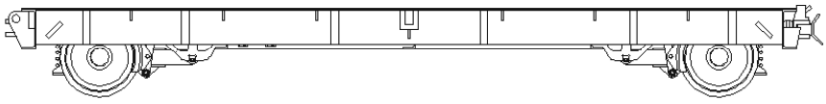

Figure 2 — Example of category 0 trailer a flat bed trailer with parking/break-away brake only

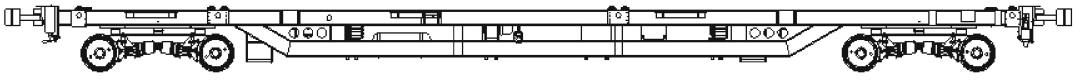

Figure 3 — Example of category 0 trailer a high speed flat bed trailer with service and parking/break-away brake

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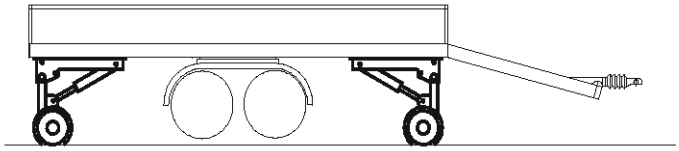

Figure 4 — Example of category 0 road rail trailer with parking/break-away brake only

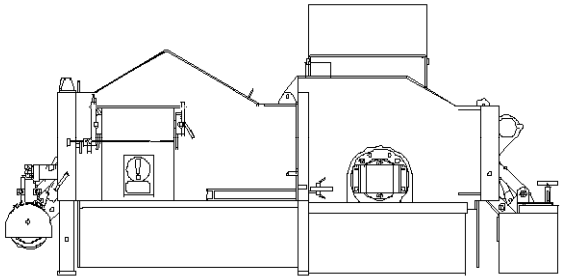

Figure 5 — Example of category 0 railway specific attachment with parking/break-away brake only

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5 Railway specific safety requirements and/ or measures

Trailers shall comply with the safety requirements and/ or protective measures in accordance with Clause 5 and 6, and supplied with information in accordance with clause 7. Trailers shall be designed to work on working track within the geometric limits, see EN 14033-2:2008, Annex F and shall be designed to work on operating track.

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Trailers that can only work on operating tracks shall display on the identification plate an indication of that restriction, see prEN 14033-1:2008, Annex C.

5.1 Gauge

5.1.1 Running gauge

5.1.1.1 General

Except as shown in 5.1.1.2 trailers in running configuration shall meet the dimensional requirements of prEN 15273-2. The critical points near the limits of the permissible kinematic gauge, see prEN 14033-1:2008, Annex C shall be recorded in the technical documentation shown in clause 7.

5.1.1.2 Special cases

Trailers intended to travel on infrastructures with more restrictive gauges shall conform to the specific rules of those infrastructures and the corresponding restrictions shall be indicated on their operating permits.

For road-rail trailers in the lower area, deviations are permitted to accommodate road wheels, as shown in Figure 6. The requirement is that the machine does not damage the infrastructure.

NOTE Special national conditions may apply to this exceedance amount, see Annex A.