SLOVENSKI STANDARD
SIST EN 15954-1:2013

01-junij-2013

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

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

Ta slovenski standard je istoveten z: **EN 15954-1:2013**

ICS:

45.120	Oprema za gradnjo in vzdrževanje železnic oz. žičnic	Equipment for railway/cableway construction and maintenance

SIST EN 15954-1:2013 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15954-1

April 2013

ICS 45.060.20; 45.120

English Version

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

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

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

This European Standard was approved by CEN on 3 August 2012.

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. 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 CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword

This document (EN 15954-1:2013) 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 October 2013, and conflicting national standards shall be withdrawn at the latest by October 2013.

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.

EN 15954 *Railway applications — Track — Trailers and associated equipment* consists of the following parts:

— *Part 1: Technical requirements for running and working* (the present document);

— *Part 2: General safety requirements*.

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

The machinery concerned and the extent to which hazards, hazardous situations 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 2006/42/EC are dealt with in EN 15954-2 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.

1 Scope

1.1 General

This European Standard specifies the technical requirements to minimise 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 authorised representative. This European Standard applies to trailers that are not intended to interact with operating signalling and control systems. Other machines are dealt with in other European Standards; see Annex E.

These trailers are not designed or intended for operating signalling and control systems and are only intended to work and run under special operating conditions specifically designated by the infrastructure manager.

These trailers are not intended to be vehicles as defined in the Interoperability Directive and are not permitted to run on the railway lines open to normal traffic. If this is required, they will need to be authorised or placed into service as set out in the Interoperability Directive 2008/57/EC.

Part 1 of this European Standard deals with the technical railway requirements; 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 2006/42/EC 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 utilising other than adhesion between the rail and rail wheels, and underground infrastructures.

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

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 is treated as a trailer for the purposes of compliance with the requirements of this European Standard.

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 (below – 20 °C or above + 40 °C), corrosive environment, contaminating environments, strong magnetic fields;

— hazards due to errors in software;

— hazards occurring when used to handle suspended loads which may swing freely.

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.

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 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.

EN 791, *Drill rigs — Safety*

EN 12663-1:2010, *Railway applications — Structural requirements of railway vehicle bodies — Part 1: Locomotives and passenger rolling stock (and alternative method for freight wagons)*

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

EN 13715, *Railway applications — Wheelsets and bogies — Wheels — Tread profile*

EN 14033-1:2011, *Railway applications — Track — Railbound construction and maintenance machines — Part 1: Technical requirements for running*

EN 14033-2:2008+A1:2011, *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*

EN 15273-2:2013, *Railway applications — Gauges — Part 2: Rolling stock gauge*

EN 15528, *Railway applications — Line categories for managing the interface between load limits of vehicles and infrastructure*

EN 15954-2:2013, *Railway applications — Track — Trailers and associated equipment — Part 2: General safety requirements*

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 — Electrical safety, earthing and the return circuit — Part 1: Protective provisions against electric shock*

EN 60947 (all parts), *Low-voltage switchgear and controlgear*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

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

Note 1 to entry: Trailers are not designed and intended to operate signalling and control systems and are not designed to be transported between work areas on their rail wheels.

Note 2 to entry: This includes attachments with rail wheels.

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

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

Note 1 to entry: It is normally a road vehicle adapted for running on rail, but can be a specially designed rail vehicle for running on the ground.

Note 2 to entry: It does not imply that the machine is suitable for use on the public road.

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

Note 1 to entry: 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 to entry: 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
on-track machine
OTM
vehicle specially designed for construction and maintenance of the track and infrastructure, and which is used in different modes: working configuration, running configuration as a self-propelling vehicle, running configuration as a hauled vehicle, when:

— it is running on its own rail wheels,

— it is designed to have characteristics necessary for the operation of track based train detection systems

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

[SOURCE: EN 14033-1:2011, 3.8, modified]

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 not powered for movement along the track

Note 1 to entry: 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 on rails

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

Note 1 to entry: See ISO 6746-1, ISO 6746-2 and ISO 6016.

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
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

Note 1 to entry: For the kinematic gauge, see EN 15273-2.

3.15
working configuration
configuration of the trailer 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

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 which is in an acceptable condition to operate normal trains

3.20
working track
track that is being maintained for which the geometrical parameters may reach the limiting values and for which special operational restrictions may apply

Note 1 to entry: For limiting values, see EN 14033-2:2008+A1:2011, Annex F.

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)

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

3.24
special train
assembly of vehicles/machines/trailers attached by couplings conforming to the relevant regulations of the infrastructure manager

EXAMPLE An assembly of trailers and/or wagons and/or category 3, 5, 7 machines described in EN 14033-1:2011 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 gauge of trains on adjacent tracks

Note 1 to entry: For the kinematic gauge, see EN 14033-2:2008+A1:2011, 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 on the rail network

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

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

3.30
type examination 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
private or public undertaking whose main business is to provide rail transport services for goods and/or passengers

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

3.34
working authorisation
authorisation given by an infrastructure manager which permits a trailer to work on that railway infrastructure

3.35
methods of examination
visual checks, measurements, functional tests, load test(s), specific verification/measurements and other controls

3.36
visual check
check that establishes 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

3.37
measurement test
test that establishes whether the stated measurable parameters have met the requirements of this standard

Note 1 to entry: Measureable parameters include geometric dimensions, safety distances, insulation resistance of electric circuits, noise and vibration.

3.38
functional test
test that establishes 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

3.39
load test
test that establishes whether the strength and stability of the equipment under load together with all safety devices and adjustments meets the requirements of this standard

3.40
specific verification/measurements
verification/measurements that establish whether the stated requirements of this standard have been met

Note 1 to entry: Requirements include calculations, technical documentation and specific documents of this standard.

4 Trailer types — Examples of types of trailer

4.1 Trailer with continuous brake and parking brake

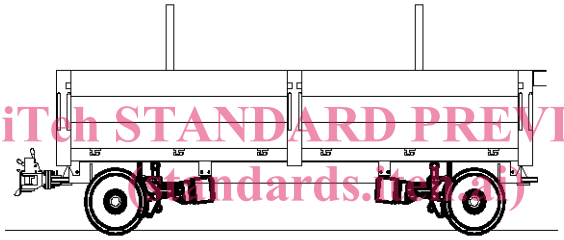

Figure 1 — Example of a box trailer with continuous and parking/break-away brake

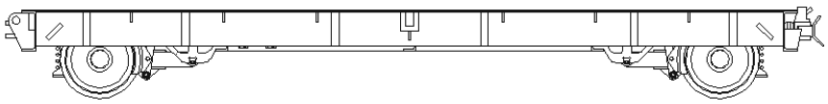

Figure 2 — Example of a high speed flat bed trailer with continuous and parking/break-away brake

4.2 Trailer with parking/break-away brake only

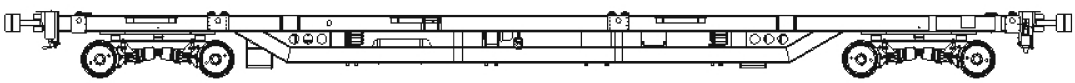

Figure 3 — Example of a flat bed trailer with parking/break-away brake only

4.3 Road rail trailer

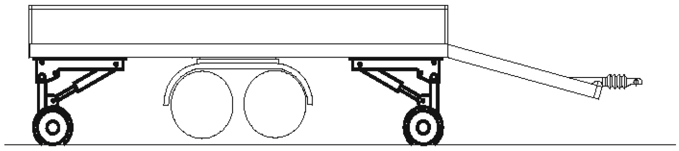

Figure 4 — Example of road rail trailer with parking/break-away brake only

4.4 Attachment with rail wheels

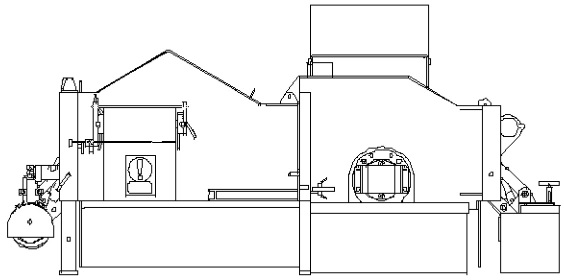

Figure 5 — Example of railway specific attachment with parking/break-away brake only

5 Railway specific safety requirements and/or measures

5.1 General

Trailers shall comply with the safety requirements and/ or protective measures in accordance with Clauses 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+A1:2011, Annex F, and shall be designed to work on operating tracks.

Trailers that can only work on operating tracks shall display on the identification plate an indication of that restriction.

5.2 Gauge

5.2.1 Running gauge

5.2.1.1 General

Except as shown in 5.2.1.2, trailers in running configuration shall meet the dimensional requirements of EN 15273-2. The critical points near the limits of the permissible kinematic gauge, see EN 14033-1:2011, Annex C, shall be recorded in the technical documentation shown in Clause 7.

5.2.1.2 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.