SLOVENSKI STANDARD
SIST EN 15746-4:2021

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Železniške naprave - Zgornji ustroj proge - Dvopotna železniška vozila in oprema - 4. del: Tehnične zahteve za obratovanje, vožnjo in delovanje mestne železnice

Railway applications - Track - Road-rail machines and associated equipment - Part 4: Technical requirements for running, travelling and working on urban rail

Bahnanwendungen - Oberbau - Zweiwege-Maschinen und zugehörige Ausrüstungen - Teil 4: Technische Anforderungen an das Fahren, Versetzen und Arbeiten in städtischen Schienennahverkehrssystemen

Applications ferroviaires - Voie - Machines rail-route et équipements associés - Partie 4 : Exigences techniques pour la circulation, le déplacement et le travail sur les réseaux ferrés urbains

Ta slovenski standard je istoveten z: **EN 15746-4:2020**

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45.060.01	Železniška vozila na splošno	Railway rolling stock in general

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Railway applications - Track - Road-rail machines and associated equipment - Part 4: Technical requirements for running, travelling and working on urban rail

Applications ferroviaires - Voie - Machines rail-route et équipements associés - Partie 4 : Prescriptions techniques pour la circulation, le déplacement et le travail sur réseau ferroviaire urbain

Bahnanwendungen - Oberbau - Zweiwege-Maschinen und zugehörige Ausrüstungen - Teil 4: Technische Anforderungen an das Fahren, Versetzen und Arbeiten in städtischen Schienennahverkehrssystemen

This European Standard was approved by CEN on 5 May 2019.

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European foreword

This document (EN 15746-4:2020) 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of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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.

EN 15746, *Railway applications — Track — Road-rail machines and associated equipment*, is currently composed with the following parts:

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

— *Part 2: General safety requirements*;

— *Part 3: Technical requirements for running*;

— *Part 4: Technical requirements for running, travelling and working on urban rail*.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is the fourth of a series of four parts of the European Standard: *Railway applications — Track — Road-rail machines and associated equipment*, dealing with railway specific risks of the road-rail machines when running, travelling and working on railway infrastructures:

— Part 1 covers the technical requirements for the machines in travelling and working modes, and is applicable for all machines.

— Part 2 covers the safety requirements for the machines in travelling and working modes; this is a document harmonized with the European Machinery Directive 2006/42/EC.

— Part 3 covers the essential requirements for the machines that have a running mode and run on tracks within the scope of the Railway Directive 2007/58/EC; this is a document harmonized with the Railway Interoperability Directive 2008/57/EC and its associated Technical Specifications for Interoperability (TSI).

— Part 4 covers the technical requirements for the machines intended to have running, travelling and/or working mode on urban rail.

Part 1 defines requirements for approval of the machine for use on the railway. Depending on the decision of the Infrastructure Manager or National rules the assessment of conformance could be by the Infrastructure Manager concerned, by a third party assessor or declaration of conformity by the manufacturer.

Part 2 defines requirements for the machine to be declared conformant by the manufacturer, except in the case of machines classified under Annex 4 of the Machinery Directive, which require a conformity check in conjunction with a notified body.

Part 3 defines requirements for running on the European railway network. Assessment of conformity is by a notified body as prescribed in the Railway Interoperability Directive.

Part 4 defines requirements for approval of the machine for use on urban rail. Depending on the decision of the Urban Rail Manager or National rules, the assessment of conformance could be by the Urban Rail Manager concerned, by a third party assessor or declaration of conformity by the manufacturer.

Additional requirements or deviations to Parts 1, 2 and 3 for urban rail are detailed in Part 4.

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

1 Scope

1.1 General

This document specifies the technical requirements to minimize the specific railway hazards of self-propelled road-rail machines – henceforward referred to as machines – and associated equipment, intended for use on urban rail. These hazards can arise during the commissioning, the operation and the maintenance of machines when carried out in accordance with the specification given by the manufacturer or his authorized representative. Where a machine is designed and intended for use on mainline and urban rail, the machine will comply with the most onerous conditions of EN 15746-1 and EN 15746-4. In all cases the machine will comply with the requirements set out in EN 15746-2.

The requirements in this document amend those in EN 15746-1 as required for the use of the machine on urban railways.

This document does not apply to the following:

— the requirements for quality of the work or performance of the machine;

— the specific requirements established by the machine operator for the use of machines, which will be the subject of negotiation between the manufacturer and the Urban Rail Manager;

— moving and working while not on rails;

— separate machines temporarily mounted on machines and associated equipment.

This document 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;

— working methods;

— operation in severe working conditions requiring special measures, e.g. extreme environmental conditions such as: freezing temperatures, high temperatures, corrosive environments, tropical environments, contaminating environments, strong magnetic fields;

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

For a road-rail machine it is assumed that an EU road permissible host vehicle will offer an accepted safety level for its designed basic functions before conversion. Unless explicitly stated otherwise in a particular clause this specific aspect is not dealt with in this European Standard.

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

1.2 Scope of urban rail

Urban rail systems cover Urban Guided Transport systems (UGT) and might include other rail systems excluded from the scope of the Interoperability Directive 2008/57/EC (Article 1.3 (a) and (b)).

Urban Guided Transport systems (UGT), which cover metro, tram and light rail, are defined as public transport systems permanently guided at least by one rail, intended for the operation of local, urban and suburban passenger services with self-propelled vehicles and operated either segregated or not from general road and pedestrian traffic.

Categories of urban rail systems include:

— (I) Metros: UGT systems operated on their own right of way and segregated from general road and pedestrian traffic. They are consequently designed for operations in tunnel, viaducts or on surface level but with physical separation in such a way that inadvertent access is not possible. In different parts of the world, Metro systems are also known as the underground, the subway or the tube. Rail systems with specific construction issues operating on a segregated guideway (e.g. monorail, rack railways) are also treated as Metros as long as they are designated as part of the urban public transport network.

— (II) Trams: UGT systems not segregated from general road and pedestrian traffic, which share their right of way with general road and/or pedestrian traffic and are therefore embedded in their relevant national road traffic legislation (highway codes and specific adaptations).

— (III) Light Rail: Light Rail is defined as a UGT system operated in parts of the system not segregated from general road and pedestrian traffic, and in parts of the system with segregated right-of-way. The segregation may include some sections of line where inadvertent access is not possible.

— (IV) Local rail systems which by national decision complying with Article 1 (3) a) or b) of Directive 2008/57/EC may be excluded from the European Community Rail System.

NOTE Such systems connect city centres with their suburban hinterland or regional local centres. Such systems are operated on rights of way which are basically segregated from general road and/or pedestrian traffic and/or which can be declared by law as independent from the public environment even if they are not segregated by location, form of construction or appropriate measures. For historical reasons they might be strongly influenced by conventional railway parameters and their operations procedures.

1.3 Category of machines for this European Standard

This document applies to Category 9 machines as described in EN 15746-1:2020, Clause 4.

1.4 Validity of this document

This document applies to all machines which are ordered one year after the publication date by CEN of this document.

2 Normative references

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.

EN 13452-1:2003, *Railway applications — Braking — Mass transit brake systems — Part 1: Performance requirements*

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

EN 14033-2:2017, *Railway applications — Track — Railbound construction and maintenance machines — Part 2: Technical requirements for travelling and working*

EN 15746-1:2020, *Railway applications — Track — Road-rail machines and associated equipment — Part 1: Technical requirements for travelling and working*

EN 15746-2:2020, *Railway applications — Track — Road-rail machines and associated equipment — Part 2: General safety requirements*