

Railway applications - Classification system for railway vehicles - Part 5: System Breakdown Structure (SBS)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 15380-5:2014 sisaldab Euroopa standardi EN 15380-5:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 15380-5:2014 consists of the English text of the European standard EN 15380-5:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.09.2014.	Date of Availability of the European standard is 03.09.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 01.110, 45.060.01

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

ICS 01.110; 45.060.01

English Version

**Railway applications - Classification system for railway vehicles -
Part 5: System Breakdown Structure (SBS)**

Applications ferroviaires - Systèmes de classification pour
véhicules ferroviaires - Partie 5: Arborescence système
(SBS)

Bahnanwendungen - Kennzeichnungssystematik für
Schienenfahrzeuge - Teil 5: Systemstruktur

This European Standard was approved by CEN on 21 June 2014.

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

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

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Symbols and abbreviations	7
5 System Breakdown Structure (SBS)	7
5.1 General remarks	7
5.2 Classification used for system levels	8
5.3 Code letters	8
5.3.1 Letters used to identify 1st level systems	8
5.3.2 Letters used to identify 1st and 2nd level systems	9
5.4 Transverse elements	10
Annex A (informative) Attributes	12
Annex B (informative) Connections of FBS, SBS and PBS (Example)	14
Annex C (informative) Rules to define the system level	17
Bibliography	18

Foreword

This document (EN 15380-5:2014) 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 March 2015 and conflicting national standards shall be withdrawn at the latest by March 2015.

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 series of European Standards EN 15380 “*Railway applications — Classification system for railway vehicles*” consists of the following parts:

- *Part 1: General principles*
- *Part 2: Product groups*
- *Part 3: Designation of train-set positions and installation sites*
- *Part 4: Function groups*
- *Part 5: System Breakdown Structure (SBS)*

NOTE EN 15380–2 refers to Product Breakdown Structure (PBS). EN 15380–4 refers to Functional Breakdown Structure (FBS).

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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 System Breakdown Structure (SBS) provides the means of defining a railway vehicle in manageable and recognizable main systems and subsystems.

In addition to main systems and subsystems this document includes transverse elements, which result from the architectural design.

The SBS can be used to link functions according to EN 15380-4 to main systems and subsystems. The SBS is also used to associate subsystems with products. Examples of products or product groups are given in EN 15380-2.

The relationships of functions to the SBS and to the products depend on the architectural design of the railway vehicles.

As a result of the architectural design there will be different associations of products to subsystems. These different associations can be compared and evaluated. In addition the SBS provides a common stable structure "black box approach" for optimization of the train architecture.

The SBS with the other breakdown structures can be used at different stages of the vehicles life cycle. The SBS provides a common structure to be used by various stakeholders, e.g. authorities, operators, maintainers, integrators and suppliers.

The System Breakdown Structure according to EN 15380-5 (SBS), the Product Breakdown Structure according to EN 15380-2 (PBS) and the Functional Breakdown Structure according to EN 15380-4 (FBS) complement each other. These structures describe different views of railway vehicles.

1 Scope

This European Standard defines the System Breakdown Structure for railway vehicles and their principal associated attributes.

This European Standard may also be applied to specific railway vehicles like track machines and snow ploughs. However, while the systems that are common with general railway vehicles are included, the systems which are specific to their work processes are not included in this European Standard. They need to be added for these individual projects.

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 50343, *Railway applications — Rolling stock — Rules for installation of cabling*

EN 81346-1:2009, *Industrial systems, installations and equipment and industrial products — Structuring principles and reference designations — Part 1: Basic rules*

3 Terms and definitions

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

3.1

object

entity treated in a process of development, implementation, usage and disposal

[SOURCE: EN 81346-1:2009, 3.1, modified — Notes 1 and 2 to entry have been omitted]

3.2

system

set of interrelated objects considered in a defined context as a whole and separated from their environment

Note 1 to entry A *system* is generally defined with a view to achieve a given objective, e.g. by performing a definite function.

Note 2 to entry Examples of a system: A drive system, a water supply system, a stereo system, a computer.

Note 3 to entry The *system* is considered to be separated from the environment and from the other external *systems* by an imaginary surface, which cuts the links between them and the *system*.

Note 4 to entry The term *system* should be qualified when it is not clear from the context to what it refers, e.g. control system, colorimetric system, system of units, transmission system.

Note 5 to entry When a *system* is part of another *system*, it may be considered as an *object* as defined in this standard.

[SOURCE: EN 81346-1:2009, 3.2, modified — Note 2 to entry has been changed]

3.3

structure

organization of relations among *objects* of a *system* describing constituency relations (consists-of/ is-a-part-of)

[SOURCE: EN 81346-1:2009, definition 3.9]