



SLOVENSKI STANDARD

SIST EN 16839:2022+A1:2025

01-november-2025

Nadomešča:
SIST EN 16839:2022

**Železniške naprave - Vozna sredstva - Postavitev glavnega voznega parka
(vključno z dopolnilom A1)**

Railway applications - Rolling stock - Head stock layout

Bahnanwendungen - Schienenfahrzeuge - Anordnung der Bauteile am Kopfstück

Applications ferroviaires - Matériel roulant ferroviaire - Agencement de la traverse de tête

Ta slovenski standard je istoveten z: EN 16839:2022+A1:2025

[SIST EN 16839:2022+A1:2025](https://standards.iteh.ai/catalog/standards/sist/4495fb77-621b-4066-8fa1-8bc7a193c6d7/sist-en-16839-2022a1-2025)

<https://standards.iteh.ai/catalog/standards/sist/4495fb77-621b-4066-8fa1-8bc7a193c6d7/sist-en-16839-2022a1-2025>

ICS:

45.040	Materiali in deli za železniško tehniko	Materials and components for railway engineering
--------	--	---

SIST EN 16839:2022+A1:2025

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 16839:2022+A1

October 2025

ICS 45.040

Supersedes EN 16839:2022

English Version

Railway applications - Rolling stock - Head stock layout

Applications ferroviaires - Matériel roulant ferroviaires
- Agencement de la traverse de tête

Bahnanwendungen - Schienenfahrzeuge - Anordnung
der Bauteile am Kopfstück

This European Standard was approved by CEN on 10 July 2022 and includes Amendment 1 approved by CEN on 20 July 2025.

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, 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, Türkiye and United Kingdom.

Document Preview

SIST EN 16839:2022+A1:2025

<https://standards.iteh.ai/catalog/standards/sist/4495fb77-621b-4066-8fa1-8bc7a193c6d7/sist-en-16839-2022a1-2025>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Free spaces	7
4.1 General.....	7
4.2 Berne rectangle.....	9
4.3 Free spaces for coupling of coaches	9
4.4 Climb protection.....	10
5 Buffers.....	10
5.1 General.....	10
5.2 Position of buffers on the headstock.....	10
5.2.1 Distance between buffers.....	10
5.2.2 Height of buffers above top of the rail	10
5.3 Buffer fixing.....	11
5.3.1 Vehicles without crashworthy buffer systems	11
5.3.2 Vehicles with crashworthy buffer systems.....	12
5.4 Interaction coupling/buffer	13
5.4.1 General.....	13
5.4.2 Mounting of buffers	13
5.5 Requirements to avoid buffer locking.....	14
5.5.1 Boundary dimensions	14
5.5.2 Calculation of width of buffer heads	16
5.5.3 Verification.....	17
6 Screw coupling	17
6.1 General.....	17
6.2 Position of draw gear on the headstock.....	18
6.2.1 Height of the draw gear above top of the rail.....	18
6.2.2 Position of the device to hang the screw coupler when not in use.....	18
6.3 Clearances around the draw hook	18
6.4 Draw gear fixing	20
7 Brake pipe connections	21
8 Pneumatic half couplings	22
9 Electrical connections	23
9.1 General.....	23
9.2 Electrical power supply connection	24
9.3 Electro pneumatic brake connection (EP-brake).....	25
Annex A (normative) Calculation of the width of buffer heads	28
A.1 General.....	28
A.1.1 Introduction	28
A.1.2 Comments on the preparation of the formulae in this annex.....	28

A.1.3	Track	28
A.1.4	Vehicle	29
A.2	Data used in the calculation.....	29
A.3	Calculation	29
A.4	Return Value.....	30
Annex B (normative)	Validation of the calculated width of buffer heads by drawing methodology.....	31
B.1	General	31
B.2	Methods.....	31
B.2.1	General	31
B.2.2	Drawing method	34
B.2.3	Simulation method.....	34
Annex C (informative)	Example of location of rest for uncoupled half couplings.....	35
Annex D (normative)	Special national conditions.....	38
Annex E (informative)	Examples for permissible arrangement of brake pipe connections.....	39
Annex F (normative)	Calculation of space for shunter (Berne Rectangle) in curves when using screw couplings.....	49
Bibliography		51

iTeh Standards
 (https://standards.iteh.ai)
 Document Preview

SIST EN 16839:2022+A1:2025

<https://standards.iteh.ai/catalog/standards/sist/4495fb77-621b-4066-8fa1-8bc7a193c6d7/sist-en-16839-2022a1-2025>

EN 16839:2022+A1:2025 (E)**European foreword**

This document (EN 16839:2022+A1:2025) 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 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

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 includes Amendment 1 approved by CEN on 20 July 2025.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

This document supersedes **A1** EN 16839:2022 **A1**.

United Kingdom has a national deviation, which is included in Annex D.

A1 Deleted paragraph **A1**

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

A1 Deleted paragraph **A1**

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

<https://standards.iteh.ai/catalog/standards/sist/4495fb77-621b-4066-8fa1-8bc7a193c6d7/sist-en-16839-2022a1-2025>

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.

1 Scope

This document is applicable to vehicles equipped with buffers and screw coupling systems.

In order to allow operation and coupling of trainsets or vehicles, this document specifies the defined free space for the shunter called the “Berne rectangle” and the necessary free space for the installation of the rescue coupler.

This document specifies the location, fixing, and free spaces on the headstock of:

- buffers;
- screw coupling systems;
- end cocks;
- pneumatic half couplings;
- connections for electric cables.

It also specifies the calculation of the width of the buffer heads.

Unless otherwise displayed, all dimensions given in this document are nominal values.

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 14601:2005+A2:2021, *Railway applications - Straight and angled end cocks for brake pipe and main reservoir pipe*

EN 15020:2022, *Railway applications — Rescue coupler — Performance requirements, specific interface geometry and test methods*

EN 15551:2022, *Railway applications — Railway rolling stock — Buffers*

EN 15566:2022, *Railway applications — Railway rolling stock — Draw gear and screw coupling*

EN 15807:2021, *Railway applications — Pneumatic half couplings*

EN 15877-1:2012+A1:2018, *Railway applications — Marking on railway vehicles - Part 1: Freight wagons*

EN 16286-1:2013, *Railway applications — Gangway systems between vehicles — Part 1: Main applications*

EN IEC 62847:2023, *Railway applications — Rolling stock — Electrical connectors — Requirements and test methods (IEC 62847:2016)*

Deleted reference

EN ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs (ISO 7010)*