SLOVENSKI STANDARD
SIST EN 15313:2024

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Železniške naprave - Zahteve za kolesne dvojice med vožnjo - Vzdrževanje kolesnih dvojic v vgrajenem in razstavljenem stanju

Railway applications - In-service wheelset operation requirements - In-service and off-vehicle wheelset maintenance

Bahnanwendungen - Radsätze und Drehgestelle - Radsatzinstandhaltung

Applications ferroviaires - Exploitation des essieux en service - Maintenance des essieux en exploitation ou déposés

Ta slovenski standard je istoveten z: **EN 15313:2024**

ICS:

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

SIST EN 15313:2024 **en,fr,de**

EUROPEAN STANDARD
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English Version

Railway applications - In-service wheelset operation requirements - In-service and off-vehicle wheelset maintenance

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This European Standard was approved by CEN on 12 August 2024.

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

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European foreword

This document (EN 15313:2024) 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of an identical text or by endorsement, at the latest by April 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

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 supersedes EN 15313:2016.

In comparison with the previous edition, the following technical modifications have been made:

— a clearer definition of the signs to identify thermal overload of wheels and associated pictures;

— the maintenance requirements to be followed when thermal overloading of a wheel is identified.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

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.

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, Türkiye and the United Kingdom.

Introduction

The objectives of this amendment to EN 15313:2016 are to:

— incorporate the appropriate results of the ERA Joint Network Secretariat “broken wheels” and Joint Sector Group task force.

1 Scope

To ensure safety and interoperability, this document gives:

— the limits for in-service and off-vehicle wheelsets;

— the operations to be carried out for which the specific values (and/or criteria) remain to be defined in the maintenance plan.

This document applies to wheelsets and axleboxes complying with the following European standards:

— EN 13103-1:2017+A1:2022;

— EN 13260:2020, EN 13261:2020, EN 13262:2020;

— EN 13979-1:2023;

— EN 13715:2020;

— EN 13749:2021+A1:2023;

that comprise:

— the axle fitted with wheels of diameters greater than or equal to 330 mm;

— axleboxes with bearings and grease.

This document is also applicable to wheelsets:

— fitted with brake discs, final drive, transmission or noise-damping systems, as appropriate;

— not complying with the above European standards, but complying with the international requirements in force, for example in UIC leaflets, before the approval of these standards;

— with tyred wheels;

— with resilient wheels.

For equipment not covered by Directive (EU) 2016/797, this European Standard can be applied, noting that different values can be used.

All dimensions in this document are in millimetres (mm).

It is necessary to describe in a specific document the tasks to be performed in order to maintain wheelsets within the limits defined therein.

NOTE The specific values and criteria are defined in an appropriate maintenance plan.

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 13260:2020, *Railway applications — Wheelsets and bogies — Wheelsets — Product requirements*

EN 13261:2020, *Railway applications — Wheelsets and bogies — Axles — Product requirements*

EN 13262:2020, *Railway applications — Wheelsets and bogies — Wheels — Product requirements*

EN 13715:2020, *Railway applications — Wheelsets and bogies — Wheels — Tread profile*

EN 13979-1:2023, *Railway applications — Wheelsets and bogies — Monobloc wheels — Technical approval procedure — Part 1: Forged and rolled wheels*

EN 15085-2:2020+A1:2023, *Railway applications — Welding of railway vehicles and components — Part 2: Requirements for welding manufacturer*

EN ISO 9712:2022, *Non-destructive testing — Qualification and certification of NDT personnel (ISO 9712:2021)*

EN ISO 9934-1:2016, *Non-destructive testing — Magnetic particle testing — Part 1: General principles (ISO 9934-1:2016)*

EN ISO 9934-2:2015, *Non-destructive testing — Magnetic particle testing — Part 2: Detection media (ISO 9934-2:2015)*

EN ISO 9934-3:2015, *Non-destructive testing — Magnetic particle testing — Part 3: Equipment (ISO 9934-3:2015)*

3 Terms, definitions, symbols and abbreviated terms

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at https://www.electropedia.org/

3.1
technical expert
person(s) competent in the maintenance of wheelsets

3.2
ECM
Entity in Charge of Maintenance

3.3
wheelset maintenance levels
maintenance of wheelsets is divided into 3 maintenance levels:

— reprofiling;

— medium wheelset maintenance;

— heavy wheelset maintenance

Note 1 to entry: Reprofiling is a maintenance level that corresponds to reprofiling of wheels (in-service or off-vehicle) and depends mainly on the wear of the wheel or the tread defects.

Note 2 to entry: Medium wheelset maintenance corresponds to off-vehicle overhaul of wheelset (revision of bearing and reprofiling of wheels).

Note 3 to entry: Heavy wheelset maintenance corresponds to the off-vehicle replacement of the wheels. This maintenance level is in principle defined by the wear limit of the wheel.

3.4
maintenance plan
structured and documented set of tasks comprising the activities, instructions, resources and the length of time necessary in order to perform the maintenance (see also definitions in EN 13306:2017; Maintenance — Maintenance terminology and EN 17018:2019; Railway applications — Rolling stock maintenance — Terms and definitions)

3.5
in-service wheelset maintenance
maintenance of in-service wheelsets comprises all of the operations which are performed on wheelsets between medium and/or heavy maintenance levels

3.6
NDT
non-destructive testing

3.7
MT
magnetic particle testing

3.8
UT
ultrasonic testing

3.9
VT
visual testing

3.10
resilient wheels
wheels that contain rubber elements between the tyre and the web

3.11
witness mark
area of unmachined material which can remain after reprofiling to demonstrate that the minimum of material has been removed

3.12
wagon overhaul
planned heavy maintenance operation on a wagon

4 Maintenance

4.1 General

Maintenance involves:

— maintenance of in-service wheelsets/axleboxes;

— maintenance of off-vehicle wheelsets/axleboxes;

— special maintenance attention after in-service incidents (e.g. overloads, hot axlebox detection, wheelset bearings subject to water ingress, etc.).

An in-service wheelset shall be maintained by a maintenance undertaking qualified in this type of wheelset.

For maintenance of wheelsets, as a minimum, the following shall be utilized:

— a maintenance plan;

— service experience;

— an organization for component and production management;

— specific wheelset maintenance tools;

— qualified staff for non-destructive testing and welding.

4.2 Maintenance organization

4.2.1 Maintenance organization plan

The general maintenance of the wheelsets is organized as shown in Figure 1.

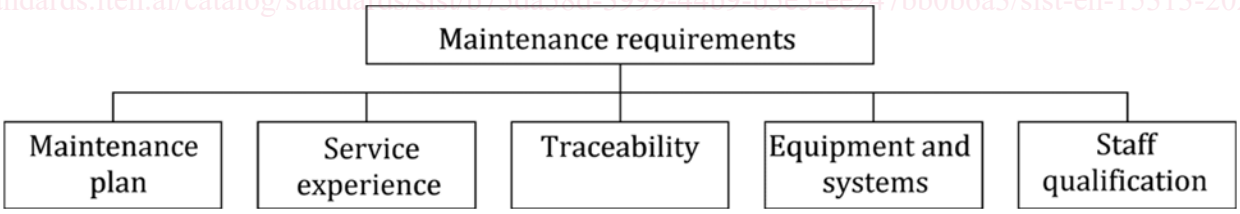

Figure 1 — General maintenance organization

4.2.2 Maintenance plan

For wheelset maintenance, it is necessary to have a maintenance plan for the wheelsets when in-service and off-vehicle.

The maintenance plan shall specify:

— the actions to be performed to meet the requirements and mandatory operations listed in this document;

— the maintenance intervals;

— any specific measures to be implemented.

The maintenance plan shall be written by an organization having recognized experience in the wheelset maintenance field and approved by the technical expert for the owner undertaking.

4.2.3 Service experience

The maintenance plan shall be reviewed to include:

— the service experience based on the performance of parts in service;

— the corrective actions necessary for dealing with defects;

— remedial actions for criteria detected outside of the limits specified in the maintenance plan;

— corrective actions for limits based on data from in-line monitoring devices.

The principle for revising the maintenance plan based on service experience is presented in Figure 2.

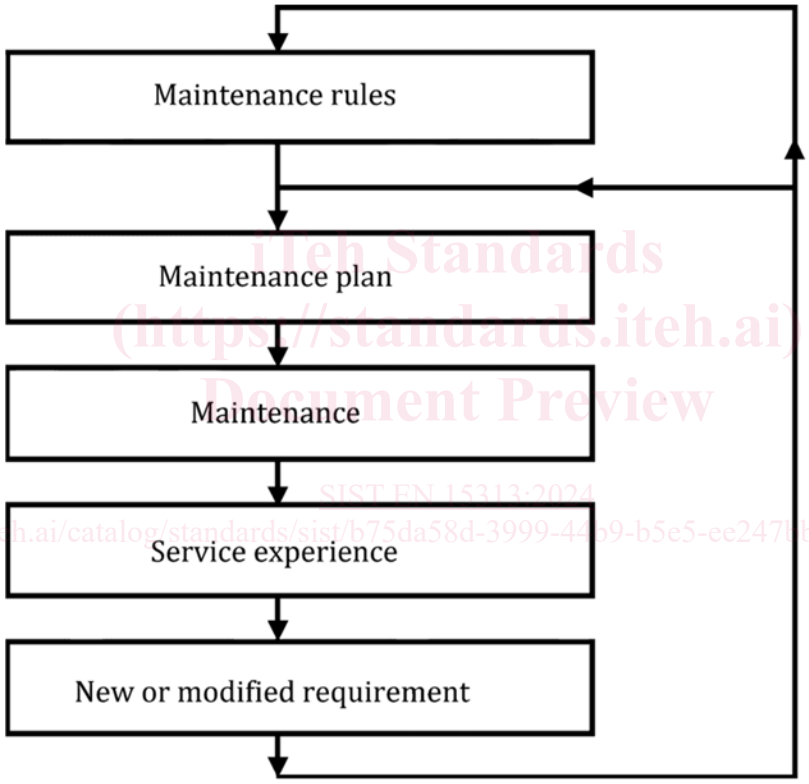

Figure 2 — Service experience

4.2.4 Traceability – storage – transportation

4.2.4.1 Wheelset identification

In order to ensure traceability, in-service wheelsets shall have marks complying with the requirements of EN 13260:2020, EN 13261:2020 and EN 13262:2020.

It is recommended to have:

— the owner's mark on the wheel (e.g. on the hub, with the same requirement as for the other marks, as specified in EN 13262:2020 and/or painted on the web, etc.);