



SLOVENSKI STANDARD

SIST EN 15313:2016

01-september-2016

Nadomešča:
SIST EN 15313:2010

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 - Im Betrieb befindliche Radsätze - Instandhaltung der Radsätze im eingebauten oder ausgebauten Zustand

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

Ta slovenski standard je istoveten z: EN 15313:2016

ICS:

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

SIST EN 15313:2016

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EUROPEAN STANDARD

EN 15313

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2016

ICS 45.040

Supersedes EN 15313:2010

English Version

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

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

Bahnanwendungen - Radsätze und Drehgestelle - Radsatzinstandhaltung

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EN 15313:2016 (E)

European foreword

This document (EN 15313:2016) 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of an identical text or by endorsement, by October 2016 at the latest, and conflicting national standards shall be withdrawn at the latest by October 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of intellectual property or similar rights. CEN and CENELEC shall not be held responsible for not having identified such property rights and notifying of their existence.

This document supersedes EN 15313:2010.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2008/57/EC

For relationship with EU Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

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Introduction

The objectives of this amendment to EN 15313:2010 are to:

- Incorporate the appropriate results of the ERA TF “Maintenance of freight wagons” established following the Viareggio accident of June 2009:
 - Common criteria for the inspection of freight wagon axles (European Visual Inspection Catalogue) (see 6.5.13.2);
 - A system to ensure the traceability of in-service wagon axles (see 4.2.4.3.2 and Annex A);
 - Specific maintenance action according to axle load (see 6.2.2);
- Improve the standard in the light of experience acquired during its application;
- Resolve the outstanding issues from the “Comments Resolution Meeting” and the Formal Voting process, and in particular the maintenance action to be taken for axles loaded over the allowed limit (see 9.4);
- Recommend the use of a traceability system for in-service locomotive and passenger vehicle axles based on that for freight wagons (see 4.2.4.3.3 and Annex B);
- Provide requirements for tired wheels and resilient wheels (see 6.2.8).

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EN 15313:2016 (E)

1 Scope

To ensure safety and interoperability, this Standard 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 European Standard applies to wheelsets and axle boxes complying with the following European Standards:

- EN 13103, EN 13104;
- EN 13260, EN 13261, EN 13262;
- EN 13979-1;
- EN 13715;
- EN 13749.

that comprise:

- the axle mounted with wheel diameters greater than or equal to 330 mm;
- axle boxes with bearings and grease. (standards.iteh.ai)

This European Standard 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 2008/57/EC, this European Standard may be applied, noting that different values may be used.

All dimensions in this Standard 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, 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 13260, *Railway applications — Wheelsets and bogies — Wheelsets — Product requirements*

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

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

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

EN 13979-1:2003+A2:2011, *Railway applications — Wheelsets and bogies — Monobloc wheels — Technical approval procedure — Part 1: Forged and rolled wheels*

EN 15085-2, *Railway applications. Welding of railway vehicles and components — Part 2: Quality requirements and certification of welding manufacturer*

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

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

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

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

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NOTE A standard relating to NDT in railway applications is currently being prepared and may be used as a reference in NDT performed on wheelsets following its publication.

3 Terms and definitions

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

3.1

operation

normal use of wheelsets in service on the track or during routine planned maintenance

NOTE 1 to entry This term also includes any in-service problems and their treatment.

3.2

competent technical department

department having experience in the wheelset maintenance field having already written the rules

3.3

technical expert

technical expert competent in the maintenance of wheelsets

3.4

ECM

Entity in Charge of Maintenance

EN 15313:2016 (E)

- 3.5**
reprofiling only level
in or off-vehicle boxed wheelset maintenance with only reprofiling
- 3.6**
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 (EN 13306; Maintenance — Maintenance terminology)
- 3.7**
medium boxed wheelset maintenance
off-vehicle boxed wheelset maintenance without change of wheels, combined with bearing overhaul
- 3.8**
heavy wheelset box in-service maintenance
maintenance of in-service boxed wheelsets comprises all of the operations which are performed on boxed wheelsets between intermediate and/or major maintenance levels
- 3.9**
major boxed wheelset maintenance
off-vehicle boxed wheelset maintenance with change of wheels, combined with bearing overhaul
- 3.10**
NDT
non-destructive testing
- 3.11**
MT
magnetic particle testing
- 3.12**
US Testing
ultrasonic testing
- 3.13**
VT
visual testing
- 3.14**
resilient wheels
wheels that contain rubber elements between the tyre and the web
- 3.15**
witness mark
area of unmachined material which can remain after reprofiling to demonstrate that the minimum of material has been removed
- 3.16**
wagon overhaul
planned major maintenance operation on a wagon

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4 Maintenance

4.1 General

Maintenance involves:

- maintenance of in-service wheelsets/axle boxes;

- maintenance of off-vehicle wheelsets/axle boxes;
- special maintenance attention after in-service incidents (e.g. overloads, hot axle box detection, wheelset bearings subject to water ingress, etc.).

An in-service boxed wheelset shall be maintained by a maintenance undertaking competent 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.

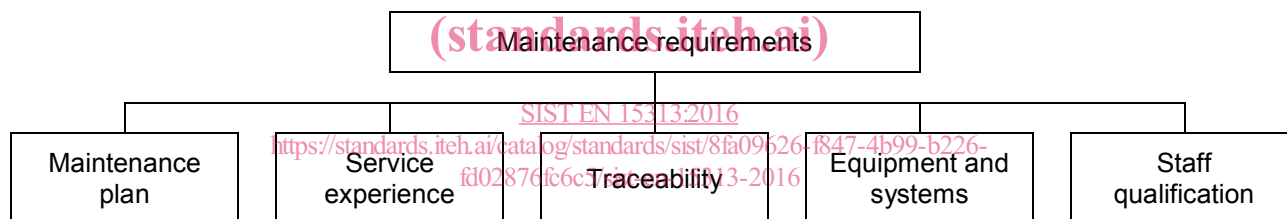


Figure 1 — General maintenance organization

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 standard;
- the maintenance intervals;
- any specific measures to be implemented.

The maintenance plan shall be written by a competent technical department in the railway field and approved by the technical expert for the owner undertaking.

NOTE An ECM is an example of a competent technical department.

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:
- detected outside the limits specified in the maintenance plan;
- established based on data from in-line monitoring devices.

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

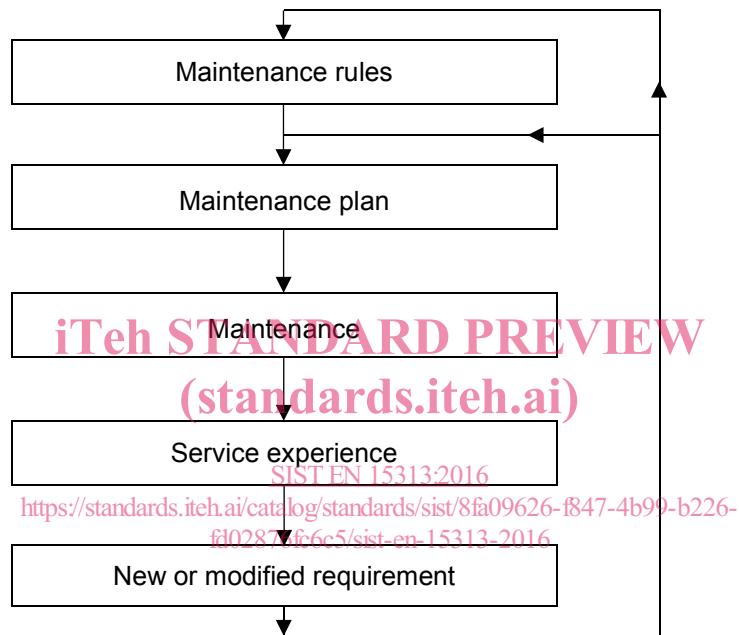


Figure 2 — Service experience

4.2.4 Traceability – storage – transportation

4.2.4.1 Wheelset identification

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

It is recommended to have:

- the keeper's mark on the wheel (e.g. on the hub, with the same requirement as for the other marks, as specified in EN 13262; painted on the web, etc.);
- external identification on boxed wheelset with axle boxes mounted (e.g. tag or metal plate on the axle box, collar on the axle, radiofrequency identification (RFID) etc.).

None of the external identification marks shall adversely affect the axle or its components.

All the identification marks shall be described in a specific document to support the management of the wheelsets during their service lives.

The markings are to be applied to the wheelsets when the latter are subject to medium and heavy maintenance.

NOTE 1 It is recommended, where possible, for these markings to be applied retrospectively, even when the boxed wheelset components were not manufactured in accordance with EN 13261 or EN 13262.

NOTE 2 When transponders are used for identification, the procedures and instructions are given in Chapter 4 "Guideline for MRO identification" of the document "RFID in RAIL – European Guideline for the Identification of Railway Assets using GS1 Standards".

4.2.4.2 Traceability of operations and transfers

The traceability shall be ensured throughout the life of the in-service boxed wheelset and its components by recording its maintenance life history (e.g. various operations and property transfers).

4.2.4.3 Database

4.2.4.3.1 General

The traceability of the original data and maintenance life history shall be recorded in a database.

The contents of the database and process for capturing information shall be described in a specific procedure.

The consistency of the records shall be checked on a regular basis.

4.2.4.3.2 Freight wagons

For freight wagon boxed wheelsets, the minimum content of the database, the time period to store the data and the measures resulting from lack of traceability are given in Annex A. The data shall be recorded in an electronic database.

For new freight wagon boxed wheelsets, the data in Tables A.1 to A.6 shall be collected before the boxed wheelset is placed in service.

For in service freight wagon boxed wheelsets, the data shall be collected at the earliest opportunity according to the maintenance plan (see clause 7.1).

Collected maintenance data is identified in categories I, II and III in Annex A, according to the minimum time for retaining the information.

In the event of a change of owner and/or ECM, all available wheelset data shall be transferred to the new owner and/or ECM.

4.2.4.3.3 Non-freight vehicles

For non-freight vehicles, the content of Annex B may be taken into consideration in ensuring adequate traceability.

4.2.4.4 Storage

Component parts, equipment, consumables etc. are to be protected against damage, as well as against environmental degradation according to manufacturer's recommendations, if applicable.

For in-vehicle boxed wheelsets stored for at least 24 months, the need for rotation of boxed wheelsets shall be based on service experience