
**Železniške naprave – Kolesne dvojice in podstavni vozički – Vzdrževanje
kolesnih dvojic**

Railway Applications - Wheelsets and bogies - Wheelset maintenance

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Railway Applications - Wheelsets and bogies - Wheelset maintenance

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Maintenance des essieux montés

Bahnanwendungen - Radsätze und Drehgestelle -
Radsatzinstandhaltung

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 256.

If this draft becomes a European Standard, 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.

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

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Foreword

This document (prEN 15313:2005) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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 Directives 96-48 and 2001-16**.

For relationship with EU Directive(s), see informative Annexes **ZA, ZB**, which are an integral part of this document.

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Introduction

To ensure safety and interoperability, this standard gives:

- the mandatory limits for in-service maintenance of wheelsets, and the requirements for off-vehicle repair or overhaul;
- the mandatory operations to be carried out. The specific values (and/or criteria) shall be defined by the railway undertaking.

To enable bilateral traffic, alternative values may be applied subject to the agreement of the notified body or bodies authorizing the use of the railway infrastructures

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1 Scope

This European Standard applies to fully equipped wheelsets:

- complying with the following ENs:
 - EN 473;
 - EN 12080, EN 12081, EN 12082;
 - EN 13103, EN 13104;
 - EN 13260, EN 13261, EN 13262;
 - EN 13979-1;
 - prEN 13715
- that comprise:
 - wheelset with wheel diameters greater than or equal to 330 mm as defined in EN 13 260;
 - axle boxes with bearings and grease;
 - brake discs, final drive and noise-damping systems, as appropriate.
- with tyred wheels whose characteristics are given in Annex G.

It may also be applied to wheelsets which do not comply with the above European Standards at the discretion of the railway undertaking, built before approval of the European Standards but complying with the international requirements in force at that time.

2 Normative references

The following referenced documents are indispensable for the application 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 473, *Non-destructive testing – Qualification and certification of NDT personnel – General principles*

EN 12080, *Railway applications – Axle boxes – Rolling bearings*

EN 12081, *Railway applications – Axle boxes – Lubricating greases*

EN 12082, *Railway applications – Axle boxes – Performance testing*

EN 13103, *Railway applications – Wheelsets and bogies – Non-powered axles – Design method*

EN 13104, *Railway applications – Wheelsets and bogies – Powered axles – Design method*

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

prEN 13715, *Railway applications – Wheelsets and bogies – Wheels – tread profile*¹⁾

3 Terms and definitions

For the purposes of this European Standard, **the following terms and definitions apply.**

3.1

maintenance

in-service and off-vehicle wheelset activities that ensure safe operation

3.2 General terminology

3.2.1

infrastructure manager

3.2.2

railway network

3.2.3

quality body authorizing operation (standards.iteh.ai)

3.2.4

railway undertaking operating the vehicles [SIST EN 15313:2010](#)

3.2.5

technical representative of the railway network <https://standards.iteh.ai/catalog/standards/sist/62334f8c-450b-4861-832e-46098f7d6f5a/sist-en-15313-2010>

3.2.6

railway undertaking

3.2.7

railway undertaking representative owner

3.2.8

railway undertaking owner

3.2.9

subcontractor qualified by the railway undertaking

3.2.10

authority in charge of train operation

3.2.11

non-railway undertaking

3.2.12

registering railway undertaking

1) In preparation

3.2.13
service experience

3.2.14
qualification of tooling

3.2.15
qualification of undertaking

3.3 Technical definitions

3.3.1
overhaul of axles

3.3.2
maintenance programme

3.3.3
maintenance interval

3.3.4
wheelset

3.3.5
axle

3.3.6
axle box

3.3.7
non-destructive testing

3.3.8
limit dimensions after maintenance

3.3.9
dimensional record of axles

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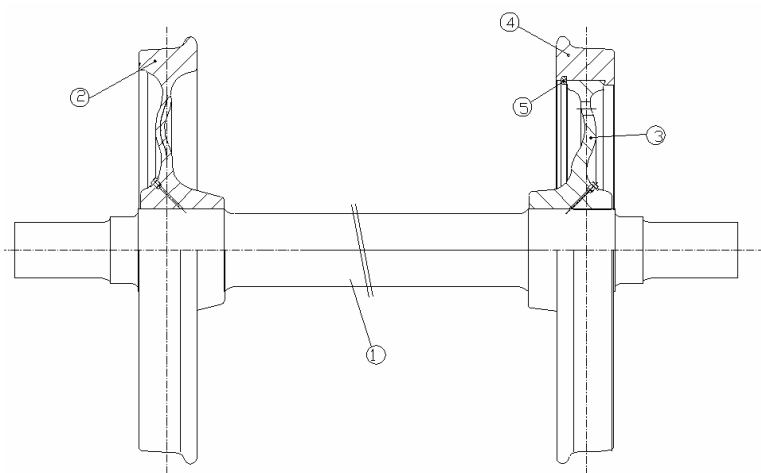
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4 Illustrations of a wheelset and its components

4.1 Wheelset

The wheelset is illustrated in Figures 1a and 1b.



Key

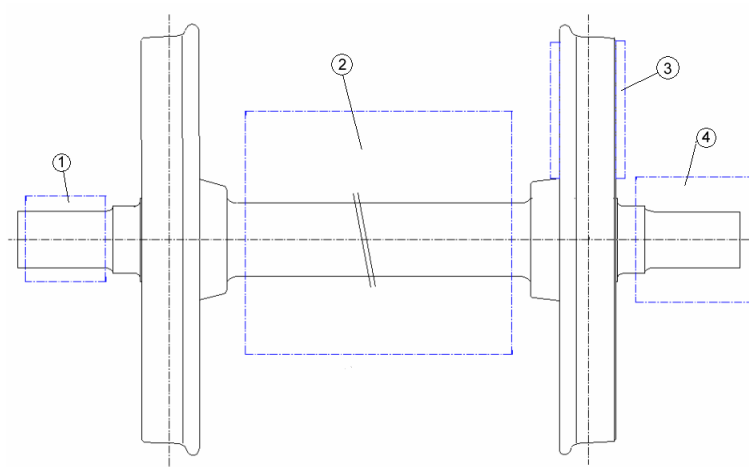
- 1 Axle
- 2 Monobloc wheel
- 3 Wheel centre
- 4 Tyre
- 5 Retaining ring

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Figure 1a — Wheelset



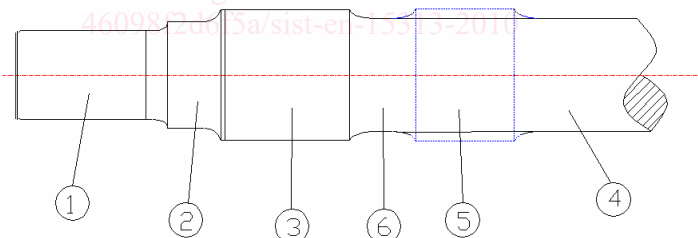
Key

- 1 Bearings
- 2 Brake disc, final drive or traction motor
- 3 Wheel-mounted brake disc
- 4 Axle box

Figure 1b — Wheelset and components

4.2 Axle

The axle is shown in Figure 2.



Key

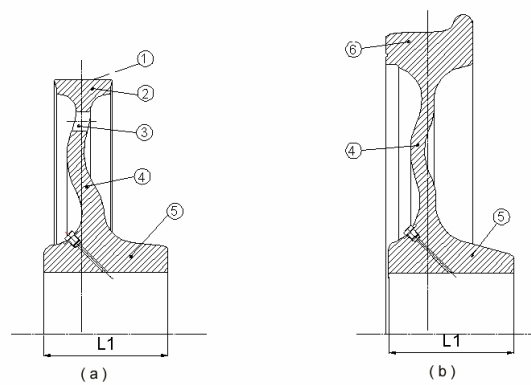
- 1 Journal
- 2 Collar bearing surface
- 3 Wheel seat
- 4 Axle body
- 5 Seat for disc, final drive or traction motor
- 6 Transition zone between seats

Figure 2 — Axle

NOTE Axles may be solid or hollow.

4.3 Wheel

The wheel is shown in Figures 3a and 3b.



Key

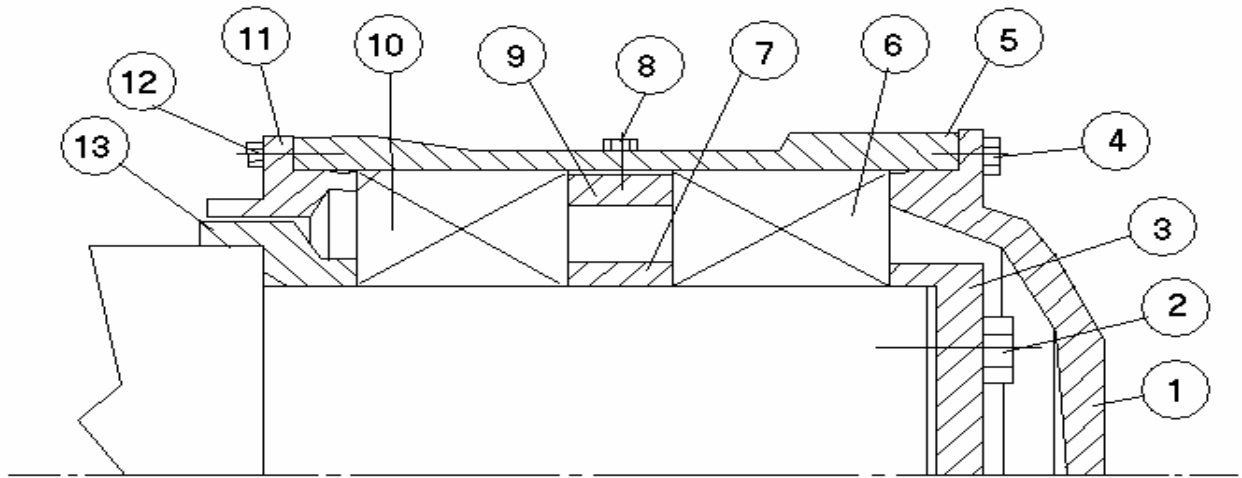
- 1 Wheel centre - tyre interference surface
- 2 Wheel centre - rim
- 3 Drive hole for machining
- 4 Web
- 5 Hub
- 6 Rim
- L1 Hub width

Figure 3a — Tyred wheel centre Figure 3b — Monobloc wheel

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4.4 Axle box



Key

- 1 Front cover
- 2 End cap bolts
- 3 End cap
- 4 Front cover bolts
- 5 Axle box body
- 6 Outer bearing
- 7 Internal spacer
- 8 Lubrication point
- 9 External spacer
- 10 Inner bearing
- 11 Rear cover
- 12 Rear cover bolts
- 13 Abutment ring

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Figure 4 — Axle box