SLOVENSKI STANDARD
oSIST prEN 12082-2:2024

01-november-2024

Železniške naprave - Ohišja ležajev kolesnih dvojic - Postopek nameščanja

Railway applications - Axleboxes - Deployment Procedure

Bahnanwendungen - Radsatzlager - Teil 2: Inverkehrbringungsprozess

Applications ferroviaires - Boîtes d'essieux - Procédure de déploiement

Ta slovenski standard je istoveten z: **prEN 12082-2**

ICS:

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

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English Version

Railway applications - Axleboxes - Deployment Procedure

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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 12082-2:2024) 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 will supersede EN 12082:2017+A1:2021.

EN 12082-2 includes the following significant technical changes with respect to EN 12082:2017+A1:2021:

— Document split into EN 12082-1 about Test procedures and EN 12082-2 about Deployment procedure

— Focus of EN 12082-2 is on process and requirements for the deployment of the axlebox system. This eliminates usage of the ambiguous term approval and clarifies that it is the axlebox that is in scope of the deployment

— Criteria which define objectives and extent of the dployment procedure are redefined, further clarified and respective clauses moved from EN 12080 to EN 12082-2

— Compatibility assessment of grease with polymers and thermoplastic material moved from EN 12081 to EN 12082-2

— Annex including Examples of axleboxes moved from EN 12080 to EN 12082-2

This series of European standards *Railway applications – Axleboxes* consist of:

— EN 12080, Railway applications — Axleboxes — Rolling bearings

— EN 12081, Railway applications — Axleboxes — Lubricating greases

— EN 12082-1, Railway applications — Axleboxes — Test procedures

— EN 12082-2, Railway applications — Axleboxes — Deployment procedure

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(s).

Introduction

To improve the reliability, availability, durability, the high speed capacity and maintenance of the European rail transportation system, there is a need to ensure the required quality, safety and efficiency of axleboxes that are covered by the set of standards: EN 12080, EN 12081, EN 12082-1 and EN 12082-2.

This part of the document EN 12082 comprises requirements for the deployment with respect to design parameters of an axlebox and its components. It is introduced to comply with CEN regulations regarding conformity assessment and mainly consists of clauses and requirements that were part of EN 12080 and EN 12081 before. Testing procedures with respect to an axlebox and its components are described in EN 12082-2.

1 Scope

This document specifies the principles and methods for deployment of the system of axlebox rolling bearing(s), housing, seal(s) and grease, required for reliable operation of trains on European networks.

It covers the conformity assessment with respect to design requirements on the rolling bearing(s) according EN 12080 and grease according EN12081 as well as the performance of (rig) tests according to EN 12082-1 . This document is historically developed for outboard applications with rotating inner rings, but can be used for vehicles with inboard bearing arrangements with rotation inner rings.

The present document describes the complete deployment procedure for new axleboxes. For certain cases and based on a documented risk assessment, a reduced deployment procedure is described.

This document only applies to axleboxes equipped with rolling bearings and greases according to EN 12080 and EN 12081.

It is not within the scope of EN 12082-2 to define the validation procedure of box housings, sleeves or coves from a structural point of view. The relevance of these parts in the scope of this document is limited to the interaction with the axle box rolling bearing with respect to the required service.

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.

prEN 12080:2024, *Railway applications — Axleboxes — Rolling bearings*

prEN 12081:2024, *Railway applications — Axleboxes — Lubricating greases*

prEN 12082-1:2024, *Railway applications — Axleboxes — Test procedures*

prEN 12082-2:2024, *Railway applications — Axleboxes — Deployment Procedure*

ISO 1817:2015, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

3 Terms and definitions

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

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

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
axlebox
assembly consisting of the following major components: rolling bearing(s), grease, seal(s) and box housing

Note 1 to entry: Further components such as axle end cap components, box cover(s), distance rings, fasteners, labyrinth(s) may be also part of the assembly but are not considered as major components. Their presence depends on the axlebox type design.

3.2
box housing
structural component which contains rolling bearing(s), seal(s) and grease. It may consist of several components such as an upper part, a lower part, bearing sleeve

3.3
rolling bearing
bearing operating with rolling motion between the parts, supporting load and moving in relation to each other

3.4
cartridge bearing
rolling bearing with two or more rows of rolling elements within a self-contained unit, greased and equipped with integral seals

3.5
grease
semi-solid lubricant, which consists of a thickener and additives dispersed in lubricating oil

3.6
seal
component that protects the rolling bearing(s) against ingress of water and dust and retains grease in the rolling bearing(s)

3.7
roller set
assembly of cage and rollers

3.8
inboard bearing row
<axlebox with more than one bearing row> bearing row closer to the middle of the wheelset or the test rig

3.9
inboard application
<vehicle or application> configuration with rolling bearings that are positioned on a wheelset axle between the wheels of a wheelset

3.10
outboard bearing row
<axlebox with more than one bearing row> bearing row that is next to the inboard bearing row to the outside direction

3.11
outboard application
<vehicle or application> configuration with rolling bearings that are positioned on wheelset axle ends, outside of the space between the wheels of a wheelset

3.12
deployment process
methodical procedure of introducing an axlebox or a change to an axlebox into vehicle service

3.13
rolling bearing type
designation of the rolling bearing or cartridge bearing according to the shape of the rolling elements (e.g. tapered roller bearing, cylindrical roller bearing, and spherical roller bearing)

3.14
rolling bearing design
designation of a specific rolling bearing or cartridge bearing design within a rolling bearing type (e. g. WJ/WJP 130x240x80 P.C3), bearing design is a subset of a bearing type

3.15
rolling bearing internal design
inner geometry of the bearing which includes the inner macro geometry (e.g. roller dimensions, ring and roller angle, ..) and inner micro geometry (e.g. raceway crowning, …)

3.16
tightness
resistance against contaminant ingress in compliance with test specification

4 Deployment Procedure

4.1 General requirements

There are two types of deployment procedures:

— complete deployment procedure, type C; corresponding to a complete procedure as specified in 4.2;

— reduced deployment procedure, type R; corresponding to a reduced procedure as specified in 4.3;

NOTE 1 In case a change is to be deployed, usually the customer specifies the type of deployment procedure based on a documented risk assessment. Table 1 is intended to provide guidelines for this risk assessment.

NOTE 2 The deployment applies to the axlebox or the change, not to any of its specific major components, see terms and definitions.

The flow chart in Figure 1 gives an overview of the deployment procedure.

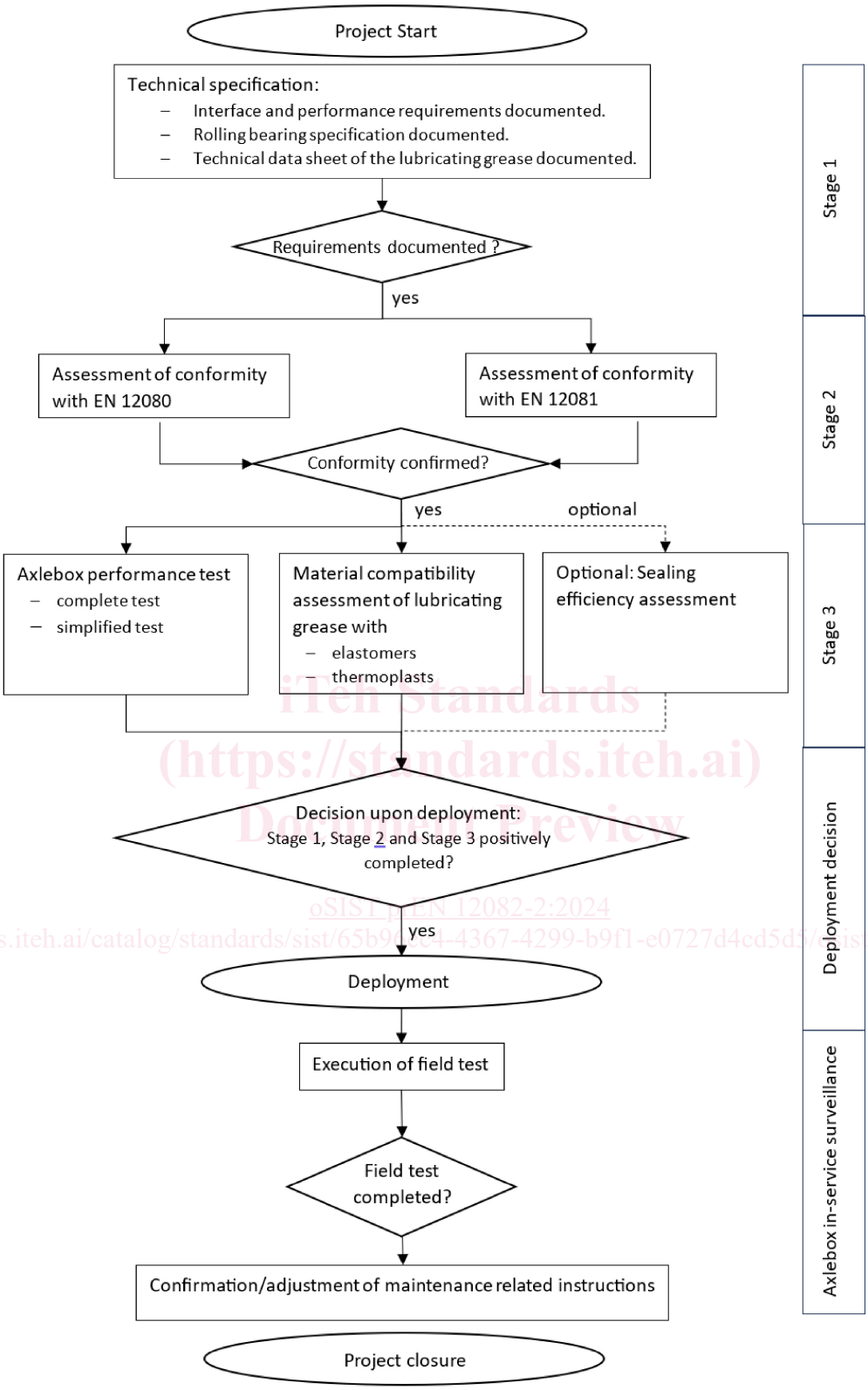

Figure 1 — deployment procedure stages