RAUDTEEALASED RAKENDUSED. TELJEPUKSID. TÖÖOMADUSTE KATSETAMINE

Railway applications - Axleboxes - Performance testing

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 12082:2017 sisaldab Euroopa standardi EN 12082:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 12082:2017 consists of the English text of the European standard EN 12082:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.09.2017.	Date of Availability of the European standard is 06.09.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 45.040

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12082

September 2017

ICS 45.040

Supersedes EN 12082:2007+A1:2010

English Version

Railway applications - Axleboxes - Performance testing

Applications ferroviaires - Boîtes d'essieux - Essais de performance

Bahnanwendungen - Radsatzlager - Prüfung des Leistungsvermögens

This European Standard was approved by CEN on 19 June 2017.

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Ref. No. EN 12082:2017 E

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European foreword

This document (EN 12082:2017) 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of an identical text or by endorsement, at the latest by February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12082:2007+A1:2010.

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.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 and EN 12082.

This European Standard has been drawn up with the purpose of standardizing the performance testing of axleboxes for all types of rolling stock to ensure suitability for the required service, i.e. that the assembly of box housing, bearing(s), seal(s) and grease is well suited for the service requirements.

This testing is made in two stages, a “rig test”, described in detail in this European Standard, and a “field test”. The extent of testing to be applied depends on the novelty of bearing design, seal design, grease formulation and/or box housing, as well as the application (see EN 12080 and EN 12081).

1 Scope

This European Standard specifies the principles and methods for a rig performance test of the system of axlebox rolling bearing(s), housing, seal(s) and grease. Test parameters and minimum performance requirements for vehicles in operation on main lines are specified. Different test parameters and performance requirements may be selected for vehicles in operation on other networks (e.g. urban rail). This standard is historically developed for outboard applications but can be used for vehicles with other bearing arrangements (e.g.: inboard application or single wheels).

It gives some possible examples where a "sequenced performance test" addresses the broad range of different service conditions within a specific application or vehicle platform into account.

It describes in detail the water tightness test and basic principles and minimum requirements for a field test.

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

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.

ASTM D7303:2012, *Standard Test Method for Determination of Metals in Lubricating Greases by Inductively Coupled Plasma Atomic Emission Spectrometry*

DIN 51460-1:2007, *Testing of petroleum products - Method for sample preparation - Part 1: Microwave incineration*

DIN 51829:2013, *Petroleum products - Determination of additive and wear elements in greases - Analysis by wavelength dispersive X-ray fluorescence spectrometry*

EN 12080:2017, *Railway applications - Axleboxes - Rolling bearings*

EN 12081:2007+A1:2010, *Railway applications - Axleboxes - Lubricating greases*

EN 15663:2017, *Railway applications - Definition of vehicle reference masses*

EN ISO 11885:2009, *Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 11885:2007)*

ISO 15243:2017, *Rolling bearings — Damage and failures — Terms, characteristics and causes*

3 Terms and definitions

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

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, bearing sleeve, box cover(s), distance rings, fasteners, labyrinth(s) may be also part of the assembly but their presence depends on the axlebox type design.