RAUDTEEALASED RAKENDUSED. TELJEPUKSID. MÄÄRDEAINED

Railway applications - Axleboxes - Lubricating greases

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12081:2017 sisaldab Euroopa standardi EN 12081:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 12081:2017 consists of the English text of the European standard EN 12081:2017.
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 75.100

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12081

September 2017

ICS 75.100

Supersedes EN 12081:2007+A1:2010

English Version

Railway applications - Axleboxes - Lubricating greases

Applications ferroviaires - Boîtes d'essieux - Graisses pour lubrification

Bahnanwendungen - Radsatzlager - Schmierfette

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

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 12081:2017 E

Contents

Page

European foreword

This document (EN 12081:2017) 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 March 2018, and conflicting national standards shall be withdrawn at the latest by March 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 12081:2007+A1 2010.

The main changes compared to the previous edition are the following:

— Clause 1: revised scope of the standard;

— Clause 2: revised and updated normative references;

— Clause 4: added REACH legislation;

— Clause 8: new definition of speed classes;

— Clause 9: revised for quality batch control and traceability;

— Clause 10: revised pack marking;

— Clause 11: revised storage prescriptions;

— Annex A: revised topic, now Approval Procedure;

— Annex B: Revised topic, now contains requirements for initial grease approval and quality batch control in Table B.1;

— Annex C (informative): added.

This document has been prepared under a mandate given to CEN/CENELEC/ETSI 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

This European Standard has been drawn up with the purpose to define the minimum requirements of greases used for the lubrication of rolling bearings in railway axleboxes. The purpose is to ensure a certain performance level in the interest of operating safety in international traffic. Performance implies a certain quality level of the vehicle running gear, which every railway undertaking may require, notably by imposing procedures in approval and quality assurance for the supply of axleboxes.

Lubricating greases intended for use in axlebox bearing application need to fulfil the requirements of this European Standard, complying with Table B.1.

This European Standard has been written so that it reflects the typical performance of, e.g. an NLGI grade 2 simple lithium soap grease, based on a mineral oil with a base oil viscosity of 100 mm^2/s at 40 °C such as would be found in current use. However, this European Standard does not restrict or limit grease evolution for more demanding applications of today and in the future, hence several parameters are left open for agreement.

1 Scope

This European Standard specifies the quality requirements of greases intended for the lubrication of axlebox rolling bearings according to EN 12080, required for reliable operation of trains on European networks. It covers the approval procedure for a not-yet-approved grease, the management of modification for an approved grease and the method of quality batch control of the grease. The grease requirements are given for two speed classes.

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 12080:2017, *Railway applications — Axleboxes — Rolling bearings*

EN 12082:2017, *Railway applications — Axleboxes — Performance testing*

EN 14865-1:2009+A1:2010, *Railway applications — Axlebox lubricating greases — Part 1: Method to test the ability to lubricate*

EN 14865-2:2017+A2:2010, *Railway applications — Axlebox lubricating greases — Part 2: Method to test the mechanical stability to cover vehicle speeds up to 200 km/h*

EN ISO 3104:1996, *Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity (ISO 3104:1994)*

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

ISO 2137:2007, *Petroleum products and lubricants — Determination of cone penetration of lubricating greases and petrolatum*

ISO 2176:1995, *Petroleum products — Lubricating grease — Determination of dropping point*

ISO 11007:1997, *Petroleum products and lubricants — Determination of rust-prevention characteristics of lubricating greases*

ISO 13737:2004, *Petroleum products and lubricants — Determination of low-temperature cone penetration of lubricating greases*

ASTM D1831:2011, *Standard Test Method for Roll Stability of Lubricating Grease*

DIN 51777-2:1974, *Testing of mineral oil hydrocarbons and solvents; determination of water content according to Karl Fischer; indirect method*

DIN 51811:2017, *Testing of lubricants — Testing of corrosiveness to copper of greases — Copper strip tarnish test*

DIN 51817:1998, *Testing of lubricants — Determination of oil separation from greases under static conditions*

DIN 51820:1989, *Testing of lubricants; analysis of greases by infrared spectrometry; taking and evaluating an infrared spectrum*

NF F 19-502:1989, *Railway rolling stock — Test method of greases for axle-boxes to rolling bearings — Vibrations and shocks enduring test on machine « ROPECS »*

NF F 19-503:1989, *Railway rolling stock — Test method of greases for axle-boxes to rolling bearings — Dynamic test for stability to oxydation of grease*

NF F 19-504:21993, *Railway rolling stock — Test method of greases for axle-boxes to rolling bearings — Grease suitability test on the « R2F » machine*

NF T 60-190:2011, *Petroleum products — rolling stability of lubricating greases*

NF T60-191:2011, *Petroleum products and lubricating greases — Oil separation on storage of lubricating greases — Method under pressure — Static conditions*

NF T60-627:2006, *Petroleum products and lubricants — Dropping point of lubricating greases — Automatic apparatus method*

NF T 60-637:2017[1], *Water content in grease by Karl Fischer after purging after final survey*)

3 Terms and definitions

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

3.1
Certificate of Analysis (CoA)
document issued by the supplier that certifies the quality of the grease batch

3.2
customer
railway undertaking, entity in charge of the maintenance, manufacturer or buyer of railway rolling stock or subassemblies, bearing manufacturer or their representative

3.3
railway undertaking
organization or its representative, whatever status it has, which is responsible for registration of rolling stock

3.4
supplier
supplier of lubricating greases manufactured under his responsibility

3.5
network
infrastructure, on which any railway undertaking can operate rolling stock

3.6
grease
semi-solid lubricant, which consists of a thickener and additives dispersed in a lubricating oil

3.7
grease batch
entire content of a production of grease from the filling vessel

1) This document is in draft stage at the time of publication of this standard.