

Railway applications — Axleboxes — Performance testing

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British Standard

ICS 45.060.10; 45.060.20

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CEN

European Committee for Standardization
Comité Européen de Normalisation
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Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by September 1998, and conflicting national standards shall be withdrawn at the latest by September 1998.

This European Standard 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).

- Council Directive 96/48/EEC of 23 July 1996 on the interoperability of the European high-speed train network¹⁾;
- Council Directive 93/38/EEC of 14 June 1993 co-ordinating the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors²⁾;
- Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways³⁾.

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¹⁾ Official Journal of the European Communities No L 235 of 17.9.96.
²⁾ Official Journal of the European Communities No L 199 of 9.8.93.
³⁾ Official Journal of the European Communities No L 237 of 24.8.91.

Introduction

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, sealing and grease is well suited for the service requirements.

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

The rig performance test will check the satisfactory function of the assembly during a simulated journey. It is to be applied only if the axlebox is composed of elements delivered by suppliers, which operate a quality system conforming to EN ISO 9001 or EN ISO 9002.

The field test comprises monitoring on vehicles in service of a sufficiently large sample of axleboxes during a high mileage.

1 Scope

This European Standard describes the principles and methods for a rig performance test of assembled axleboxes with rolling bearings according to EN 12080 and with lubricating greases according to EN 12081. Test parameters and minimum performance requirements for vehicles in operation on main lines are specified in clause 6 and annex A (normative). Different test parameters and performance requirements may be selected for vehicles in operation on other networks.

Basic principles for a field test are also determined.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 12080, *Railway applications — Axleboxes — Rolling bearings*.

EN 12081, *Railway applications — Axleboxes — Lubricating greases*.

EN ISO 9001, *Quality systems — Model for quality assurance in design/development, production, installation and servicing* (ISO 9001:1994).

EN ISO 9002, *Quality systems — Model for quality assurance in production, installation and servicing*. (ISO 9002:1994).

ISO 2137, *Petroleum products — Lubricating grease and petrolatum — Determination of cone penetration*.

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

ISO 3733, *Petroleum products and bituminous materials — Determination of water — Distillation method*.

UIC 515-4, *Passenger rolling stock — Trailer bogies — Running gear — Bogie frame structure strength tests*.

UIC 515-5, *Passenger rolling stock — Trailer bogies — Running gear — Tests for axleboxes*.

NF F 19-503, *Matériel roulant ferroviaire — Méthode d'essais des graisses pour boîtes d'essieux à roulements — Essai dynamique de la stabilité à l'oxydation des graisses*.

3 Definitions

For the purposes of this standard, the following definitions apply.

3.1

customer

railway company, manufacturer or buyer of railway rolling stock or subassemblies, or their representative

3.2

railway company

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

3.3

supplier

supplier of rolling bearings, sealing, grease or box housings for axleboxes, manufactured under his responsibility

3.4

axlebox

assembly of box housing, rolling bearings, sealing and grease

3.5

box housing

structural component which contains rolling bearings, sealing and grease