BS EN 16241:2014+A1:2016

BSI Standards Publication

Railway applications — Slack adjuster

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National foreword

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The UK participation in its preparation was entrusted by Technical Committee RAE/4, Railway Applications - Rolling stock systems, to Subcommittee RAE/4/-/1, Railway applications - Braking.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2016

ISBN 978 0 580 90802 6

ICS 45.040

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2014.

Amendments issued since publication

Date	Text affected
30 November 2016	Implementation of CEN amendment A1:2016

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16241:2014+A1

November 2016

ICS 45.040

Supersedes EN 16241:2014

English Version

Railway applications - Slack adjuster

Applications ferroviaires - Régleur de timonerie

Bahnanwendungen - Gestängesteller

This European Standard was approved by CEN on 16 November 2013 and includes Amendment 1 approved by CEN on 8 August 2016.

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Ref. No. EN 16241:2014+A1:2016 E

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Full document details: BS EN 16241:2014+A1:2016

Contents

Page

European foreword ... 4
1 Scope ... 5
2 Normative references ... 5
3 Terms and definitions ... 5
4 Design and manufacture ... 6
4.1 Requirements ... 6
4.1.1 General ... 6
4.1.2 Maintenance of block to tread clearance ... 6
4.1.3 Take up ... 6
4.1.4 Pay out ... 6
4.1.5 Shock and Vibration ... 7
4.1.6 Space envelope ... 7
4.1.7 Maximum load absorption ... 9
4.2 Service life ... 9
4.3 Ambient temperature ... 10
4.4 Other environmental conditions ... 10
4.4.1 General ... 10
4.4.2 Humidity ... 10
4.4.3 Rain ... 10
4.4.4 Snow, ice and hail ... 11
4.4.5 Solar radiation ... 11
4.4.6 Resistance to pollution ... 11
4.5 External appearance ... 11
5 Materials ... 11
6 Type test methods ... 12
6.1 Sampling for type test ... 12
6.2 Test requirements ... 12
6.3 Test procedure ... 12
6.3.1 Principle ... 12
6.3.2 Check of physical and geometrical characteristics ... 12
6.3.3 Operation ... 12
6.3.4 Operation at extreme temperatures ... 14
6.3.5 Maximum load absorption ... 14
6.3.6 Life test ... 14
6.4 Approval validity ... 15
6.5 Test Report ... 15
7 Routine test ... 15
8 In-Service assessment ... 15
9 Designation ... 16
10 Identification and marking ... 16
Annex A (informative) In-service trial ... 17

Documents
Document Sharing Hub
Full document details: BS EN 16241:2014+A1:2016

A.1 General **17**
A.2 Test set-up and sampling **17**
A.3 Procedure **17**
A.4 Pass/fail criteria **17**
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC **18**
Bibliography **20**

Documents
Document Sharing Hub
Full document details: BS EN 16241:2014+A1:2016

European foreword

This document (EN 16241:2014+A1:2016) 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 May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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This document includes Amendment 1 approved by CEN on 2016-08-08.

This document supersedes EN 16241:2014.

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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.

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Full document details: BS EN 16241:2014+A1:2016

1 Scope

This European Standard establishes general principles for designing, manufacturing and type testing slack adjusters.

NOTE 1 These requirements cannot be written in sufficient detail to ensure good workmanship or proper construction. Each manufacturer is therefore responsible for taking every necessary step to make sure that the quality of workmanship and construction is such as to ensure accordance with good engineering practice.

It is applicable to double acting slack adjusters designed to control the block (shoe) to tread (wheel) clearance of tread braked vehicles with conventional brake cylinders and rigging, without taking the track-gauge into consideration.

NOTE 2 The term used for this device by UIC is "Brake rigging adjuster".

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 60721-3-5:1997, *Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 5: Ground vehicle installations*

EN 61373, *Railway applications — Rolling stock equipment — Shock and vibration tests (IEC 61373)*

3 Terms and definitions

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

3.1
tread
surface of a monobloc wheel or of a separate tread on which the brake block rubs

3.2
slack adjuster
device to compensate for wear of brake shoes, wheel treads, and brake rigging pivots to maintain a nominal block to tread clearance

Note 1 to entry: These slack adjusters are fitted separately in the brake rigging as independent devices. These slack adjusters are sometimes referred to as regulators.

3.3
double acting
works in two directions to take up excessive clearance between the brake block and tread or pay out to allow the nominal clearance to be restored between the brake block and tread where this is reduced

3.4
take up
reduction in the length of the brake rigging caused by the operation of the slack adjuster

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Full document details: BS EN 16241:2014+A1:2016

3.5
pay out
increase in length of the brake rigging caused by the operation of the slack adjuster

4 Design and manufacture

4.1 Requirements

4.1.1 General

Slack adjusters shall be able to operate in the brake rigging of railway rolling stock. Slack adjusters shall be able to be mounted in both exposed and protected locations and function correctly in normal conditions of operation. The impact of direct pollution and shocks linked to loading and unloading of vehicles are excluded from this European Standard.

4.1.2 Maintenance of block to tread clearance

Slack adjusters shall operate to maintain a set block to tread clearance within a tolerance of ± 2 mm. The block to tread clearance is a function of the setting of the slack adjuster control dimension "A" which is chosen to provide the required block to wheel clearance when fitted to a vehicle. Examples of installations are shown in Figure 1. This is tested in accordance with 6.3.3.1.

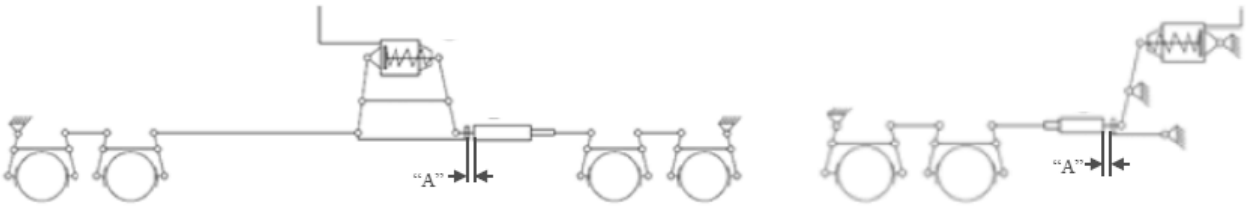

Figure 1

4.1.3 Take up

Slack adjusters shall take up excessive block to tread clearance in a minimum number of cycles of the brake (application and release), but this shall not be more than 3 cycles. This requirement is tested in accordance with 6.3.3.2.

4.1.4 Pay out

Slack adjusters shall pay out, if the block to tread clearance is insufficient, to restore the correct block to tread clearance. This situation may come about due to a change in the vehicles laden state. This pay out shall not increase the distance between brake block and wheel when releasing after the first brake application when the insufficient block to tread clearance is detected, but only after the release following the second brake application if the distance remains insufficient. This is to prevent the clearance being increased due to the presence of ice, snow or other foreign bodies. This requirement is tested in accordance with 6.3.3.3.

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