This is a free page sample. Access the full version online.

NSAI Standards

Irish Standard
I.S. EN 15624:2008+A1:2010

# Railway applications - Braking - Empty-loaded changeover devices

© NSAI 2010 No copying without NSAI permission except as permitted by copyright law.

This is a free page sample. Access the full version online.

# I.S. EN 15624:2008+A1:2010

*Incorporating amendments/corrigenda/National Annexes issued since publication:*
EN 15624:2008/A1:2010

**The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:**

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

| *This document replaces:* | *This document is based on:* | *Published:* |
|---|---|---|
| EN 15624:2008 | EN 15624:2008+A1:2010<br>EN 15624:2008 | 6 October, 2010<br>29 October, 2008 |

| | |
|---|---|
| This document was published under the authority of the NSAI and comes into effect on:<br>21 October, 2010 | ICS number:<br>45.060.01 |

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

I.S. EN 15624:2008+A1:2010

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 15624:2008+A1

October 2010

ICS 45.060.01

Supersedes EN 15624:2008

English Version

# Railway applications - Braking - Empty-loaded changeover devices

Applications ferroviaires - Freinage - Dispositifs de changement de régime Vide-Chargé

Bahnanwendungen - Bremse - Leer-beladen-Umstellvorrichtungen

This European Standard was approved by CEN on 13 September 2008 and includes Amendment 1 approved by CEN on 30 August 2010.

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 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 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

© 2010 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 15624:2008+A1:2010: E

This is a free page sample. Access the full version online.



# Contents

Page

Foreword ..... 4

1 Scope ..... 5

2 Normative references ..... 5

3 Terms, definitions and symbols ..... 5
3.1 Terms and definitions ..... 5

4 Design and manufacture ..... 6
4.1 General ..... 6
4.2 Functional requirements ..... 7
4.2.1 General ..... 7
4.2.2 Automatic empty-loaded changeover device ..... 7
4.2.3 Pneumatic device characteristics ..... 8
4.2.4 Automatic hydraulic to pneumatic converter ..... 9
4.2.5 Automatic elastomeric to pneumatic converter ..... 9
4.2.6 Components for operation of the manual empty-loaded changeover device ..... 9
4.3 Vibrations and shock ..... 10
4.4 Environment ..... 10
4.4.1 General ..... 10
4.4.2 Temperature ..... 10
4.4.3 Other environmental conditions ..... 10
4.5 Compressed air quality ..... 12
4.6 Service life ..... 12
4.7 Fire behaviour ..... 12
4.8 External appearance ..... 13
4.9 Design requirements regarding pressure stress ..... 13
4.10 Leakage ..... 13
4.11 Interfaces ..... 13
4.11.1 Mechanical ..... 13
4.11.2 Pneumatic ..... 13

5 Materials ..... 13

6 Type tests ..... 14
6.1 General ..... 14
6.2 Individual automatic empty-loaded changeover device type tests ..... 14
6.2.1 Test bench for individual automatic empty-loaded changeover device type tests ..... 14
6.2.2 Sampling for type tests ..... 15
6.2.3 Test requirements ..... 15
6.2.4 Check of physical and geometrical characteristics ..... 16
6.2.5 Leakage ..... 16
6.2.6 Changeover operation – empty to loaded ..... 17
6.2.7 Changeover operation – loaded to empty ..... 17
6.2.8 Response time – empty to loaded ..... 18
6.2.9 Response time – loaded to empty ..... 19
6.2.10 Shock and vibration tests ..... 19
6.2.11 Operation at extreme temperatures ..... 20

7 Routine test and inspection ..... 21

8 Type validation ..... 21

9 Manual empty-loaded changeover device installation validation ..... 21
9.1 Equivalent handle movement ..... 21
9.2 Changeover plate alignment ..... 21

This is a free page sample. Access the full version online.



**10 Documentation** ..... 21

**11 Designation** ..... 22

**12 Identification and marking** ..... 22
**12.1 Identification plate** ..... 22
**12.2 Changeover plate for the manual empty-loaded changeover device** ..... 22

**Annex A** (informative) **Assessment of an empty-loaded changeover device when fitted to a vehicle** ..... 24
**A.1 Vehicle assessment – Testing set up** ..... 24
**A.2 Design acceptance testing set up** ..... 24
**A.3 Single vehicle static testing** ..... 24
**A.3.1 Vehicle requirements** ..... 24
**A.3.2 Test procedures** ..... 24
**A.4 Running tests** ..... 25
**A.4.1 General** ..... 25
**A.4.2 Pneumatic empty-loaded changeover device – Air consumption** ..... 25
**A.4.3 Pneumatic empty-loaded changeover device – Output signal variation** ..... 26

**Annex B** (informative) **Examples of manual empty-loaded changeover device handles and changeover plates** ..... 27

**Annex C** (informative) **Test bench diagram** ..... 29

**Annex ZA** (informative) **A1 Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast) A1** ..... 30

**Bibliography** ..... 32

This is a free page sample. Access the full version online.



# Foreword

This document (EN 15624:2008+A1:2010) 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 April 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

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 includes Amendment 1, approved by CEN on 2010-08-30.

This document supersedes EN 15624:2008.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1⟩ ⟨A1▌.

▌A1⟩ 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. ⟨A1▌

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

SAI GLOBAL

This is a free preview.  Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation