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BSI Standards Publication

Safety of escalators and moving walks

Part 2: Rules for the improvement of safety of existing escalators and moving walks

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National foreword

This British Standard is the UK implementation of EN 115-2:2021. It supersedes BS EN 115-2:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MHE/4, Lifts, hoists and escalators.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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EUROPEAN STANDARD EN 115-2

NORME EUROPÉENNE

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ICS 91.140.90 Supersedes EN 115-2:2010

English Version

Safety of escalators and moving walks - Part 2: Rules for the improvement of safety of existing escalators and moving walks

Sécurité des escaliers mécaniques et trottoirs roulants - Partie 2 : Règles pour l'amélioration de la sécurité des escaliers mécaniques et des trottoirs roulants existants

Sicherheit von Fahrtreppen und Fahrsteigen - Teil 2: Regeln für die Erhöhung der Sicherheit bestehender Fahrtreppen und Fahrsteige

This European Standard was approved by CEN on 19 March 2021.

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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.

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COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Page

European foreword ... **iv**

Introduction ... **v**

1 Scope ... **7**

2 Normative references ... **7**

3 Terms and definitions ... **7**

4 List of significant hazards ... **8**
4.1 General ... 8
4.2 Significant hazards dealt with by this document ... 8
4.3 Significant hazards not dealt with by this document ... 9

5 Safety requirements and/or protective measures ... **10**
5.1 General ... 10
5.2 Supporting structure (truss) and enclosure ... 10
5.2.1 General ... 10
5.2.2 Fire hazard ... 10
5.3 Steps, pallets and belt ... 11
5.4 Drive units ... 11
5.4.1 Driving machine ... 11
5.4.2 Braking system ... 11
5.5 Balustrade ... 13
5.5.1 General ... 13
5.5.2 Dimension of balustrades ... 13
5.5.3 Skirting ... 13
5.6 Handrail system ... 13
5.6.1 Handrail speed monitoring ... 13
5.6.2 Profile and position ... 14
5.6.3 Handrail entry ... 14
5.7 Landings ... 14
5.8 Machinery spaces, driving stations and return stations ... 14
5.9 Fire protection ... 15
5.10 (kept free) ... 15
5.11 Electric installations and appliances ... 15
5.11.1 General ... 15
5.11.2 Main switches ... 16
5.12 Electric control system ... 16
5.12.1 Protective devices and functions ... 16
5.12.2 Safety devices ... 17
5.12.3 Control devices ... 17
5.13 Building interfaces ... 18
5.13.1 Free space for users ... 18
5.13.2 Machinery spaces outside the truss ... 19
5.13.3 Electric power supply ... 20
5.14 Safety signs for the user ... 20
5.15 Use of shopping trolleys and baggage carts ... 20
5.15.1 Escalator ... 20
5.15.2 Moving walk ... 20
5.15.3 Barriers ... 20

6 Verification and improvement measures ... **21**

7 Information for use ... **21**

Annex A (informative) **Method for national implementation of EN 115-2** ... **22**

Annex B (informative) **Safety check list for existing escalators and moving walks** ... **25**

This is a preview of "BS EN 115-2:2021". Click here to purchase the full version from the ANSI store.

Bibliography **33**

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European foreword

This document (EN 115-2:2021) has been prepared by Technical Committee CEN/TC 10 “Lifts, escalators and moving walks”, the secretariat of which is held by AFNOR.

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 October 2021, and conflicting national standards shall be withdrawn at the latest by April 2023.

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

This document supersedes EN 115-2:2010.

The need for replacement was based on the following points:

a) EN 115-2:2010 was referring to EN 115-1:2008, which is superseded by EN 115-1:2017;

b) additional requirements based on EN 115-1:2017;

c) new structure for electric requirements with clauses for protective, safety and control devices and functions.

The EN 115 series of standards consists of the following parts, under the general title *Safety of escalators and moving walks*:

— *Part 1: Construction and installation*;

— *Part 2: Rules for the improvement of safety of existing escalators and moving walk*s;

— *Part 3: Correlation between EN 115-1:2008+A1:2010 and EN 115-1:2017*;

— *Part 4: Interpretations related to EN 115 family of standards*.

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

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Introduction

Background of this document

More than 136 500 escalators and moving walks are in use today in the European Union (EU) and European free Trade Association (EFTA) and almost 50 % were installed more than 20 years ago. However, this document compares the safety level of escalators and moving walks installed after 1970 with those within EN 115-1:2017. This recognizes that the first attempt to have a common standard for escalators and moving walks was the CIRA Recommendation 28 [1]. Escalators and moving walks were installed to the safety level appropriate at that time. This level is less than today's state of the art for safety.

New technologies and social expectations have led to today's state of the art for safety. This has led to the situation today of different levels of safety across Europe causing accidents. However, users and authorized persons expect a common acceptable level of safety.

Furthermore, the life cycle of escalators and moving walks is longer than most other transportation systems and building equipment, which therefore means that the design, performance and safety can fall behind modern technologies. If all existing escalators and moving walks are not upgraded to today's state of the art of safety the number of injuries will increase (especially in areas which can be accessed by the general public, recognizing the change of behaviour and changing attitudes towards safety in general). If escalators or moving walks were installed before 1970 on the base of manufacturer's and national standards or were installed after 1970 but not in accordance with CIRA Recommendation 28, then they should be the subject of a separate risk assessment in addition to the recommendations of this document to determine whether a safety upgrade or a full replacement is appropriate.

Approach of this document

This document:

— categorizes various hazards and hazardous situations, each of which has been analysed by a risk assessment (see in particular Annex A);

— is intended to provide corrective actions to progressively and selectively improve, step by step, the safety of all existing escalators and moving walks towards today's state of the art for safety (see Clause 5);

— enables each escalator and moving walk to be audited and safety measures to be identified and implemented in a step by step and selective fashion according to the frequency and severity of any single risk (see Table B.2);

— lists the high, medium and low risks and corrective actions which can be applied in separate steps in order to mitigate the risks (see Table B.2).

Use of this document

This document can be used as a guideline for:

a) national authorities to determine its own programme of implementation in a step by step process via a filtering process (see Annex A) in a reasonable and practicable[1)] way based on the level of risk (e.g. high, medium, low) and social and economic considerations;

b) owners to follow their responsibilities according to existing regulations (e.g. use of Work Equipment Directive);

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1) "Reasonable and practicable" is defined as follows: "In deciding what is reasonably practicable the seriousness of a risk to injury should be weighted against the difficulty and cost of removing or reducing that risk. Where the difficulty and costs are high, and a careful assessment of the risk shows it to be comparatively unimportant, action may not need to be taken. On the other hand where the risk is high, action should be taken at whatever cost.".

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c) maintenance companies and/or inspection bodies to inform the owners on the safety level of their installations;

d) owners to upgrade the existing escalator or moving walk on a voluntary basis in accordance with c) if no regulations exist.

In making an audit of an existing escalator or moving walk installation Annex B can be used to identify the hazards and corrective actions in this document. However, where a hazardous situation is identified which is not covered in this document a separate risk assessment should be made. This risk assessment should be based on ISO 14798 [4].

The need for replacement was based on the revision of EN 115-1, which was published in 2017.

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1 Scope

This document gives rules for improving the safety of existing escalators and moving walks with the aim of reaching an equivalent level of safety to that of a newly installed escalator and moving walk by the application of today's state of the art for safety.

NOTE Due to situations such as the existing machine or building designs, it might not be possible in all cases to reach today's state of the art for safety. Nevertheless, the objective is to improve the level of safety wherever possible.

This document includes the improvement of safety of existing escalators and moving walks for:

a) users;

b) maintenance and inspection personnel;

c) persons outside the escalator or moving walk (but in its immediate vicinity);

d) authorized persons.

This document is not applicable to:

1) safety during transport, installation, repairs and dismantling of escalators and moving walks;

2) spiral escalators;

3) accelerating moving walks.

However, this document can usefully be taken as a reference basis.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 115-1:2017, *Safety of escalators and moving walks — Part 1: Construction and installation*

EN 13015:2001+A1:2008, *Maintenance for lifts and escalators — Rules for maintenance instructions*

EN 60204-1:2018, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

EN ISO 12100:2010, *Safety of machinery — general principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, EN 115-1:2017 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
authorized person
suitably trained person with authorization to access restricted areas of escalators and moving walks (e.g. machinery spaces, separate machine rooms) and to work there, for the purpose of inspection, testing and maintenance