



Lifts, escalators and moving walks

Part 5.1: Safety of escalators and moving walks — Construction and installation (EN 115-1:2017, MOD)



AS 1735.5.1:2019

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- Australasian Fire and Emergency Service Authorities Council
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Elevator Association
- Australian Industry Group
- Communications, Electrical and Plumbing Union — Electrical Trades Division
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Preface

This Standard was prepared by the Standards Australia Committee ME-004, Lift Installations, to supersede AS 1735.5:2015 *Lifts, escalators and moving walks, Part 5: Escalators and moving walks*.

The objective of this Standard is applicable for new escalators and moving walks (pallet or belt type) as defined in Clause 3.

This Standard covers all significant hazards, hazardous situations and events relevant to escalators and moving walks when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This Standard is not applicable to escalators and moving walks which were manufactured before the date of its publication. It is, however, recommended that existing installations be adapted to this Standard.

NOTE For wiring of escalators or moving walks, refer to AS/NZS 3000 *Electrical installations* (known as the *Australian/New Zealand Wiring Rules*).

This Standard is an adoption with national modifications, and has been reproduced from, *EN 115-1:2017, Safety of escalators and moving walks — Part 1: Construction and installation*.

The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to EN 115-1:2017 for the application of this Standard in Australia.

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- (a) In the source text “this European Standard” should read “this Australian Standard”.
- (b) A full point substitutes for a comma when referring to a decimal marker.

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

NOTES

Contents

Page

European foreword.....	6
Introduction	8
1 Scope.....	10
2 Normative references.....	10
3 Terms and definitions, symbols and abbreviations	12
3.1 Terms and definitions	12
3.2 Symbols and abbreviations	15
4 List of significant hazards	17
4.1 General.....	17
4.2 Mechanical hazards.....	17
4.3 Electric hazards	18
4.4 Radiation hazards.....	18
4.4.1 Electromagnetic radiation generated by the machine	18
4.4.2 Electromagnetic radiation received from outside	18
4.5 Fire hazard.....	18
4.6 Hazards generated by neglecting ergonomic principles in machinery design.....	18
4.7 Hazard generated by failure of control circuit.....	18
4.8 Hazards generated by break-up during operation	19
4.9 Slipping, tripping and falling hazards.....	19
4.10 Hazards specific for this type of machine.....	19
4.11 Significant hazards due to seismic events.....	20
5 Safety requirements and/or protective measures	20
5.1 General.....	20
5.2 Supporting structure (truss) and enclosure	20
5.2.1 General.....	20
5.2.2 Angle of inclination.....	21
5.2.3 Access to the interior	21
5.2.4 Inspection covers	21
5.2.5 Structural design.....	21
5.3 Steps, pallets, belt.....	21
5.3.1 General.....	21
5.3.2 Dimensions.....	22
5.3.3 Structural design.....	22
5.3.4 Guiding of steps, pallets and belt.....	27
5.3.5 Clearance between steps or pallets	27
5.3.6 Missing step or pallet device.....	27
5.4 Drive unit	27
5.4.1 Driving machine	27
5.4.2 Braking system	28
5.4.3 Steps and pallets drive	31
5.4.4 Belt drive.....	32
5.5 Balustrade.....	32
5.5.1 General.....	32
5.5.2 Dimensions of balustrade	32
5.5.3 Skirting.....	33
5.5.4 Newel	36
5.5.5 Clearance between steps, pallets or belt and skirting.....	36

5.6	Handrail system	37
5.6.1	General	37
5.6.2	Profile and position	37
5.6.3	Distance between the handrail centre lines	37
5.6.4	Handrail entry.....	37
5.6.5	Guiding	37
5.7	Landings.....	38
5.7.1	Surface properties.....	38
5.7.2	Configuration of steps, pallets and belts	38
5.7.3	Combs.....	39
5.8	Machinery spaces, driving station and return stations	39
5.8.1	General	39
5.8.2	Dimensions and equipment.....	40
5.8.3	Lighting and socket outlets	40
5.9	Fire protection.....	41
5.10	Transportation	41
5.11	Electric installations and appliances.....	48
5.11.1	General	48
5.11.2	Contactors, relay contactors, components of failsafe circuits.....	49
5.11.3	Main switches.....	50
5.11.4	Electric wiring.....	50
5.12	Electric control system	51
5.12.1	Protective devices and functions	51
5.12.2	Safety devices and functions.....	53
5.12.3	Control devices and functions.....	61
6	Verification of the safety requirements and/or protective measures	67
6.1	General	67
6.2	Specific data, test reports and certificates	71
7	Information for use.....	72
7.1	General	72
7.2	Signals and warning devices.....	72
7.2.1	Plates, inscriptions and notices for use	72
7.2.2	Special indicators for escalators and moving walks starting automatically.....	73
7.3	Inspection and test.....	73
7.3.1	General	73
7.3.2	Constructional inspection and acceptance inspection and test.....	73
7.4	Accompanying documents (in particular, instruction handbook)	74
7.4.1	Contents	74
7.4.2	Presentation of the instruction handbook	77
7.4.3	Advice for drafting and editing information for use.....	77
7.5	Marking	77
Annex A (normative)	Building interfaces	78
A.1	General	78
A.2	Free space for users	78
A.3	Machinery spaces outside the truss.....	79
A.4	Measures to prevent access of shopping trolleys and baggage carts.....	80
A.4.1	General	80
A.4.2	Barriers	80
A.5	Fixed guiding barriers and traffic columns.....	81
A.6	Electric power supply.....	82

Annex B (normative) Electronic components - Failure exclusion	86
B.1 Scope	86
B.2 Failure exclusions - conditions.....	86
Annex C (normative) Drafting and assessing failsafe circuits.....	90
Annex D (normative) Testing of failsafe circuits containing electronic components and/or safety related electrical, electronic and programmable electronic devices (E/E/PE)	91
D.1 General.....	91
D.2 General provisions.....	91
D.2.1 Failsafe circuits containing electronic components.....	91
D.2.2 Safety related electrical, electronic and programmable electronic devices (E/E/PE)	91
D.3 Test samples	91
D.4 Mechanical tests	92
D.4.1 General.....	92
D.4.2 Vibrations	92
D.4.3 Bumping	92
D.5 Climatic stress testing.....	93
D.5.1 Temperature tests	93
D.5.2 Humidity tests	93
D.6 Functional and safety test of E/E/PE.....	93
Annex E (informative) Design guideline for safety circuits	94
Annex F (informative) Examples of possible dynamic torsional tests for steps and pallets	95
F.1 General.....	95
F.2 Torsional test 1	95
F.3 Torsional test 2	96
Annex G (normative) Safety signs for the user of escalators and moving walks.....	98
Annex H (informative) Guidelines for selection and planning of escalators and moving walks.....	100
H.1 Maximum capacity	100
H.2 Escalators or moving walks for public transport.....	100
Annex I (normative) Requirements on escalators and moving walks intended to transport shopping trolleys and baggage carts.....	101
I.1 Escalators.....	101
I.2 Moving walks	102
Annex J (informative) Determination of anti-slip properties of the tread surfaces of steps and pallets, of comb plates and floor plates.....	103
J.1 Introduction	103
J.2 Testing and assessing anti-slip properties	103
Annex K (informative) Determination of sliding properties of footwear on balustrade skirting.....	105

K.1	Introduction.....	105
K.2	Testing and assessing sliding properties.....	105
	Annex L (informative) Major modification.....	106
	Annex M (normative) Escalators and moving walks subject to seismic conditions	107
M.1	Introduction.....	107
M.2	Structural requirements	107
M.2.1	General	107
M.2.2	Supports.....	107
M.2.3	Arrangement	107
M.2.4	Mechanical safety devices for escalators and moving walks	107
M.3	Design requirements.....	107
M.3.1	General	107
M.3.2	Truss.....	107
M.3.3	Mass for the truss of escalators and moving walks	108
M.3.4	Condition of loading and deformation during a seismic event.....	108
M.3.5	Calculation procedure according to EN 1998-1:2004	108
M.4	Machinery.....	108
M.5	Electrical installation and other equipment.....	108
	Annex N (normative) Interpretations of EN 115-1	110
N.1	Format of an interpretation request	110
N.2	Format of an interpretation.....	111
	Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC aimed to be covered.....	112
	Bibliography	113

European foreword

This document (EN 115-1:2017) 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 January 2018, and conflicting national standards shall be withdrawn at the latest by January 2019.

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 115-1:2008+A1:2010.

The need for a replacement was based on the following points:

- a) improvement in safety due to changes in proven technology;
- b) the need to reflect changes to the state of the art;
 - new structure for electric requirements with clauses for protective, safety and control devices and functions;
 - requirements for step inserts/fixings;
 - expansion of operational brake by electrical braking;
 - update on test material for skirting;
 - inclusion of fire protection requirements;
 - introduction of 2-direction-mode;
 - inclusion of a stop switch indicator;
 - introduction of inspection control actuated by the use of both hands;
 - description of barriers to prevent access of trolley;
 - requirements for fixed devices in the unrestricted area;
 - inclusion of seismic design requirements;
- c) incorporation of essential health and safety requirements from the relevant EU Directives;
- d) elimination of reported errors;
- e) clarification of the text and incorporation of proposals resulting from interpretation requests ¹⁾;
- f) improvement of the references to other standards according to the progress in that field;

1) Within CEN/TC 10 an interpretation committee has been established to answer questions about the spirit in which the experts have drafted the various clauses of this standard. All such interpretations are published within CEN/TS 115-4 [1] until incorporated by amendment into the standards concerned.

g) adaption to CEN Guide 414:2014.

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 Directives.

For relationship with EU Directives, see informative Annex ZA, which are integral parts of this document.

This standard is part of the EN 115 series of standards: "*Safety of escalators and moving walks*".

EN 115 is currently composed with the following parts:

- *Part 1: Construction and installation* [the present document];
- *Part 2: Rules for the improvement of safety of existing escalators and moving walks*;
- *Part 3: Correlation between EN 115:1995 and its amendments and EN 115-1:2008* [Technical Report];
- *Part 4: Interpretations related to EN 115 family of standards* [Technical Specification].

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, 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 document is a type-C standard as stated in EN ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium, and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in the case of machinery intended for use by consumers).

The above mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or -B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

The purpose of this standard is to define safety requirements for escalators and moving walks in order to safeguard people and objects against risks of accidents during installation, operation, maintenance and inspection work.

The contents of this standard are based on the assumption that persons using escalators and moving walks are able to do so unaided. However, physical and sensory abilities in a population can vary over a wide range, escalators and moving walks are also likely to be used by persons with a range of other disabilities.

Some individuals, in particular older people, might have more than one impairment. Some individuals are not able to use an escalator or moving walk independently and rely on assistance/support being provided by a companion. Furthermore some individuals can be encumbered by objects or be responsible for other persons, which can affect their mobility. The extent to which an individual is incapacitated by impairments and encumbrances often depends on the usability of products, facilities and the environment.

The use of wheelchairs on escalators and moving walks can lead to dangerous situations which cannot be mitigated by machine designs and therefore should not be permitted.

The use of lifts is the preferred method of vertical travel for most people with disabilities and in particular wheelchair users and persons with guide dogs.

Additional signs should be provided to indicate the location of other facilities, these facilities should be in close proximity to the escalators and moving walks and easy to find.

The risks arising from the configuration of escalators and moving walks within a building (e.g. obstructions or voids adjacent to escalators) should be risk assessed according to methodology of the

ISO 14798 by the building designer/owner at the building design stage and measures identified to eliminate hazards or reduce risk to an acceptable level.

It is assumed that negotiations have been made for each contract between the customer and the supplier/installer (see also Annex A) about:

- a) intended use of the escalator or moving walk;
- b) environmental conditions;
- c) civil engineering problems;
- d) other aspects related to the place of installation.

Planning of traffic flows and evacuation/rescue purposes are under the responsibility of the building designer/owner.

If escalators or moving walks are intended to be operated under special conditions, such as directly exposed to the weather or explosive atmosphere, or in exceptional cases serve as emergency exits, appropriate design criteria, components, materials and instructions for use should be used that satisfy the particular conditions.

An Interpretation Committee has been established to clarify, if necessary, the spirit in which the clauses of the standard have been drafted and to specify the requirements appropriate to particular cases. Interpretation Requests can be sent to the National Standard Bodies which will contact the responsible Technical Committee CEN/TC 10. The formats of an interpretation request and the interpretation are given in Annex N.

1 Scope

This European Standard is applicable for new escalators and moving walks (pallet or belt type) as defined in Clause 3.

This European Standard deals with all significant hazards, hazardous situations and events relevant to escalators and moving walks when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This European Standard is not applicable to escalators and moving walks which were manufactured before the date of its publication. It is, however, recommended that existing installations be adapted to this standard.

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 1929-2:2004, *Basket trolleys — Part 2: Requirements, tests and inspection for basket trolleys with or without a child carrying facility, intended to be used on passenger conveyors*

EN 1929-4:2005, *Basket trolleys — Part 4: Requirements and tests for basket trolleys with additional goods carrying facility(ies), with or without a child carrying facility, intended to be used on passenger conveyors*

EN 1990:2002², *Eurocode — Basis of structural design*

EN 1993-1-1:2005, *Eurocode 3: Design of steel structures — Part 1-1: General rules and rules for buildings*

EN 1998-1:2004, *Eurocode 8: Design of structures for earthquake resistance — Part 1: General rules, seismic actions and rules for buildings*

EN 10025-1:2004, *Hot rolled products of structural steels — Part 1: General technical delivery conditions*

EN 10025-2:2004, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10025-3:2004, *Hot rolled products of structural steels — Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels*

EN 10025-4:2004, *Hot rolled products of structural steels — Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels*

EN 10025-5:2004, *Hot rolled products of structural steels — Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance*

EN 10025-6:2004+A1:2009, *Hot rolled products of structural steels — Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition*

EN 10083-1:2006, *Steels for quenching and tempering — Part 1: General technical delivery conditions*

2) This standard is currently impacted by the amendment EN 1990:2002/A1:2005.