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Australian STANDARD®

# Energy performance of lifts, escalators and moving walks

# Part 3: Energy calculation and classification of escalators and moving walks

STANDARDS Australia

AS ISO 25745.3:2019

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Australian Chamber of Commerce and Industry
Australian Elevator Association
Australian Industry Group
Communications, Electrical and Plumbing Union — Electrical Trades Division
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Lift Engineering Society of Australia
Property Council of Australia

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# Preface

This Standard was prepared by the Standards Australia Committee ME-004, Lift Installations.

The objective of this Standard is to specify generic tools for estimating energy consumption of escalators and moving walks, and a consistent method for energy performance classification of existing, modernized, or new escalators and moving walks.

This Standard considers—

(a) the energy performance during the operational portion of the life cycle of escalators and moving walks;

(b) all escalators and inclined moving walks up to a rise of 8 m; and

(c) horizontal moving walks with a length up to 60 m (this represents about 85 % of worldwide installed units).

This Standard does not cover energy consumption and classification of the ancillary equipment, such as the following:

(i) Lighting with the exception of comb plate lighting, step gap lighting, and traffic light (comb plate lighting, step gap lighting, and traffic light are considered essential for the operation of the equipment and are therefore not defined as ancillary equipment).

(ii) Cooling and heating and machine room ventilation.

(iii) Alarm devices and emergency battery supplies equipment, etc.

(iv) Environmental conditions.

(v) Consumption through the power sockets.

There can be other electrical loads not associated with the escalator or moving walk, and not included.

This Standard is identical with, and has been reproduced from, ISO 25745-3:2015, *Energy performance of lifts, escalators and moving walks — Part 3: Energy calculation and classification of escalators and moving walks.*

As this document has been reproduced from an International Standard, the following applies:

(A) In the source text “this part of ISO 25745” should read “this Australian Standard”.

(B) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

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.

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# Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 178, *Lifts, escalators and moving walks*.

ISO 25745 consists of the following parts, under the general title *Energy performance of lifts, escalators and moving walks:*

— *Part 1: Energy measurement and verification*

— *Part 2: Energy calculation and classification for lifts (elevators)*

— *Part 3: Energy calculation and classification for escalators and moving walks*

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# Introduction

This International Standard has been prepared in response to the rapidly increasing need to ensure and to support the efficient and effective use of energy. This International Standard provides

a) a method to estimate energy consumption of escalators and moving walks on a daily and an annual basis for escalators and moving walks,

b) a method for energy classification of new, existing, or modernized escalators and moving walks,

c) guidelines for reducing energy consumption that can be used to support building and environmental and energy classification systems.

This International Standard is intended to be a reference for the following parties:

— building developers/owners to evaluate the energy consumption of escalators and moving walks;

— building owners and service companies when modernising installations including reduction of energy consumption;

— the installers and maintenance providers of escalators and moving walks;

— consultants and architects involved in specification of escalators and moving walks;

— inspecting authorities and other third parties providing energy classification services.

The total energy consumption over the entire life cycle of escalators and moving walks consists of the energy to manufacture, install, operate, and dispose of the lifts. However, for the purpose of this International Standard, only operating energy (running and standby) performance is considered.

In the preparation of this International Standard, Technical Committee ISO/TC 178/ WG 10 has initiated extensive research, which included the measuring and modelling of over 300 typical escalator and moving walk installations. The results of this research have been used to provide the numerical values shown in Table 3 and Table A.3.

This International Standard is suitable for national/regional jurisdictional energy performance purposes.

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# Australian Standard®

# Energy performance of lifts, escalators and moving walks

## Part 3: Energy calculation and classification of escalators and moving walks

## 1 Scope

This part of ISO 25745 specifies

a) generic tools for estimating energy consumption of escalators and moving walks, and

b) a consistent method for energy performance classification of existing, modernized, or new escalators and moving walks.

This part of ISO 25745 considers the energy performance during the operational portion of the life cycle of escalators and moving walks. It does not cover energy consumption and classification of the ancillary equipment, such as the following:

a) lighting with the exception of comb plate lighting, step gap lighting, and traffic light;

NOTE 1 Comb plate lighting, step gap lighting, and traffic light are considered essential for the operation of the equipment and are therefore not defined as ancillary equipment.

b) cooling and heating and machine room ventilation;

c) alarm devices and emergency battery supplies equipment, etc.;

d) environmental conditions;

e) consumption through the power sockets.

NOTE 2 There can be other electrical loads not associated with the escalator or moving walk, which shall not be included.

This part of ISO 25745 considers all escalators and inclined moving walks up to a rise of 8 m and horizontal moving walks with a length up to 60 m.

NOTE This represents about 85 % of worldwide installed units.

## 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.

ISO 25745-1, *Energy performance of lifts, escalators and moving walks — Part 1: Energy measurement and verification*

## 3 Terms, definitions and symbols

For the purposes of this document, the following terms, definitions and symbols (see Table 1) apply.

### 3.1 Terms and definitions

**3.1.1**
**ancillary energy**
energy used by the ancillary equipment

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