Energy performance of lifts, escalators and moving walks - Part 1: Energy measurement and verification (ISO 25745-1:2023)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 25745-1:2023 sisaldab Euroopa standardi EN ISO 25745-1:2023 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 25745-1:2023 consists of the English text of the European standard EN ISO 25745-1:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.07.2023.	Date of Availability of the European standard is 26.07.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Energieeffizienz von Aufzügen, Fahrtreppen und Fahrsteigen - Teil 1: Energiemessung und Überprüfung (ISO 25745-1:2023)

This European Standard was approved by CEN on 15 July 2023.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN ISO 25745-1:2023) has been prepared by Technical Committee ISO/TC 178 "Lifts, escalators and moving walks" in collaboration with 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 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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 ISO 25745-1:2012.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 25745-1:2023 has been approved by CEN as EN ISO 25745-1:2023 without any modification.

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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 document 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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 178, *Lifts, escalators and moving walks*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 10, *Lifts, escalators and moving walks,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 25745-1:2012), which has been technically revised.

The main changes are as follows:

— updated scope for lifts regarding energy storage systems and fan.

A list of all parts in the ISO 25745 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

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

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

— building developers or owners determining and confirming the energy consumption of a building;

— building owners and service companies for performing regulatory periodic energy verification;

— manufacturers, installers and maintenance providers of lifts, escalators and moving walks;

— consultants and architects involved in specification of lifts, escalators and moving walks.

The total energy consumption over the entire life cycle of lifts, escalators and moving walks consists of the energy to manufacture, install, operate, and the disposal of lifts, escalators and moving walks. However, for the purpose of this document, only the power consumption of the lift, escalator or moving walk required for its operation is considered in the assessment of energy consumption and its verification.

This document is suitable for national or regional jurisdictional energy performance purposes.

Energy performance of lifts, escalators and moving walks —

Part 1: Energy measurement and verification

1 Scope

1.1 General

This document specifies:

a) methods of measuring actual energy consumption of lifts, escalators and moving walks on a single unit basis;

b) methods of carrying out periodic energy verification checks on lifts, escalators and moving walks in operation.

This document only considers the energy performance during the operational portion of the life cycle of the lifts, escalators or moving walks.

1.2 Lifts

For lifts, this document does not cover energy aspects, such as:

a) hoistway lighting;

b) heating and cooling equipment, including fans in the lift car;

c) machine room lighting;

d) machine room heating, ventilation and air conditioning;

e) non-lift, display systems, closed circuit television security cameras, etc.;

f) non-lift, monitoring systems (building management systems, etc.);

g) the effect of lift group dispatching on energy consumption;

h) non-lift equipment consumption through the power sockets;

i) energy storage systems if used as an alternative energy source for operation.

1.3 Escalators and moving walks

For escalators and moving walks, this document does not cover energy aspects of the ancillary equipment, such as:

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

b) cooling and heating;

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

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

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

3.1
ancillary current
current drawn by the ancillary circuit(s) through the ancillary switch(es)

3.2
ancillary energy
energy (3.6) used by the *ancillary equipment* (3.3)

3.3
ancillary equipment
equipment such as lighting, fans, heating, alarm devices and emergency battery supplies

3.4
ancillary power coupling point
point where ancillary power measurements are taken, and which is located at the output side of the lift, escalator or moving walk ancillary power breaker

Note 1 to entry: See Annex A.

3.5
autostart condition
condition when an escalator or moving walk is stationary, powered up and ready to start when initiated by passenger detection

3.6
energy
power consumed over time

3.7
energy meter
instrument capable of measuring *energy* (3.6)

3.8
idle
condition when a lift is stationary at a floor following a run before the standby mode is entered

3.9
main power coupling point
point where the main power measurements are taken, and which is located at the output side of the main switch/disconnect for the lift, escalator or moving walk

Note 1 to entry: See Annex A.