INTERNATIONAL STANDARD

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# Lifts for the transport of persons and goods —

## Part 30: Class I, II, III and VI lifts installation

*Ascenseurs pour le transport des personnes et des charges —*

*Partie 30: Installation d'ascenseurs des classes I, II, III et VI*



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# Foreword

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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).

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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*.



This first edition of ISO 8100-30 cancels and replaces ISO 4190-1:2010, which has been technically revised. It also incorporates the Amendment ISO 4190-1:2010/Amd.1:2011. The main changes compared to the previous document are as follows:

— a reference to machine room-less lifts has been added and additional dimensions have been included to cope with common machine room-less lift configurations;

— Figure 7 has been changed to include sizes and dimensions of general-purpose lifts with counterweight to side;

— some new and revised car sizes have been included to provide for access by persons including persons with disability.

A list of all parts in the ISO 8100 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.

NOTE 1 In certain instances, harmonization is not possible and these sizes are shown in Figures 10 to 13.

NOTE 2 National regulations can require greater dimensions in some instances.

This corrected version of ISO 8100-30:2019 incorporates the following corrections:

— Figure 2 has been corrected;

— references to Figures 10 to 13 have been corrected;

— the duplicated Subclause 5.2.5 has been removed.

# Introduction

This document reflects the requirements of the global marketplace and includes:

— the special needs, access and full manoeuvrability of persons including persons with physical disabilities;

— appropriate use of stretchers, beds and ancillary medical equipment in hospitals and nursing homes;

— a range of intensive-use lifts[1)] typically used for high-rise buildings for rated speeds of 2,5 m/s to 6,0 m/s;

— rated speeds mainly based on the Renard series for speeds of up to 2,5 m/s;

— improved utilization of building space by reducing well (hoistway) sizes where practicable.



1) Hereinafter, the term “lift” is used instead of the term “elevator”.

# Lifts for the transport of persons and goods —

# Part 30:
# Class I, II, III and VI lifts installation

## 1 Scope

This document specifies the necessary dimensions to permit the installation of passenger lifts of class I, II, III and VI.

These dimensions reflect the requirements for the apparatus.

This document is applicable to all new lift installations, irrespective of drive systems, including a car with one entrance, to be installed in a new building. However, for arrangements with counterweight at the side, a through-entrance configuration is possible. Where relevant, this document is also applicable to an installation in an existing building.

This document is not applicable to lifts of rated speed greater than 6,0 m/s.

NOTE It is the responsibility of the user to consult the manufacturer for such installations.



## 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 terminological databases for use in standardization at the following addresses:

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

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

### 3.1 General

**3.1.1**
**car**
part of the *lift* (3.1.6) which carries the passenger and/or other loads

**3.1.2**
**headroom**
part of the *well* (3.1.8) situated above the highest landing served by the *car* (3.1.1)

**3.1.3**
**landing**
area providing access to the *car* (3.1.1) at each level of use

**3.1.4**
**machine room**
room in which the machine or machines and/or the associated equipment are placed

**3.1.5**
**machine room-less lift**
*lift* (3.1.6) whose machinery spaces, e.g. control cabinet(s) and drive system, lift machine, main switch(es), and means for emergency operations, are inside the *well* (3.1.8) or on the *landing(s)* (3.1.3)

**3.1.6**
**lift**, GB
**elevator**, US
permanent lifting appliance serving defined landing levels, comprising a *car* (3.1.1), the dimensions and means of construction of which, clearly permit the access of persons

**3.1.7**
**pit**
part of the *well* (3.1.8) situated below the lowest *landing* (3.1.3) served by the *car* (3.1.1)

**3.1.8**
**well**, GB
**hoistway**, US
space in which the *car* (3.1.1), the counterweight or the balancing weight travels

Note 1 to entry: This space is usually bounded by the bottom of the *pit* (3.1.7), the walls and the ceiling of the well.

## 3.2 Terms related to lift classes

**3.2.1**
**class I**
*lift* (3.1.6) designed for the transport of persons



**3.2.2**
**class II**
*lift* (3.1.6) designed mainly for the transport of persons, but in which goods can be carried



Note 1 to entry: This differs from a class I, III and VI lift, essentially, by the inner fittings of the *car* (3.1.1) and by the strength of the car floor, etc.

**3.2.3**
**class III**
*lift* (3.1.6) designed for health-care purposes, e.g. hospitals and nursing homes

**3.2.4**
**class VI**
*lift* (3.1.6) especially designed to suit buildings with intensive traffic, i.e. lifts with speeds of 2,5 m/s and above

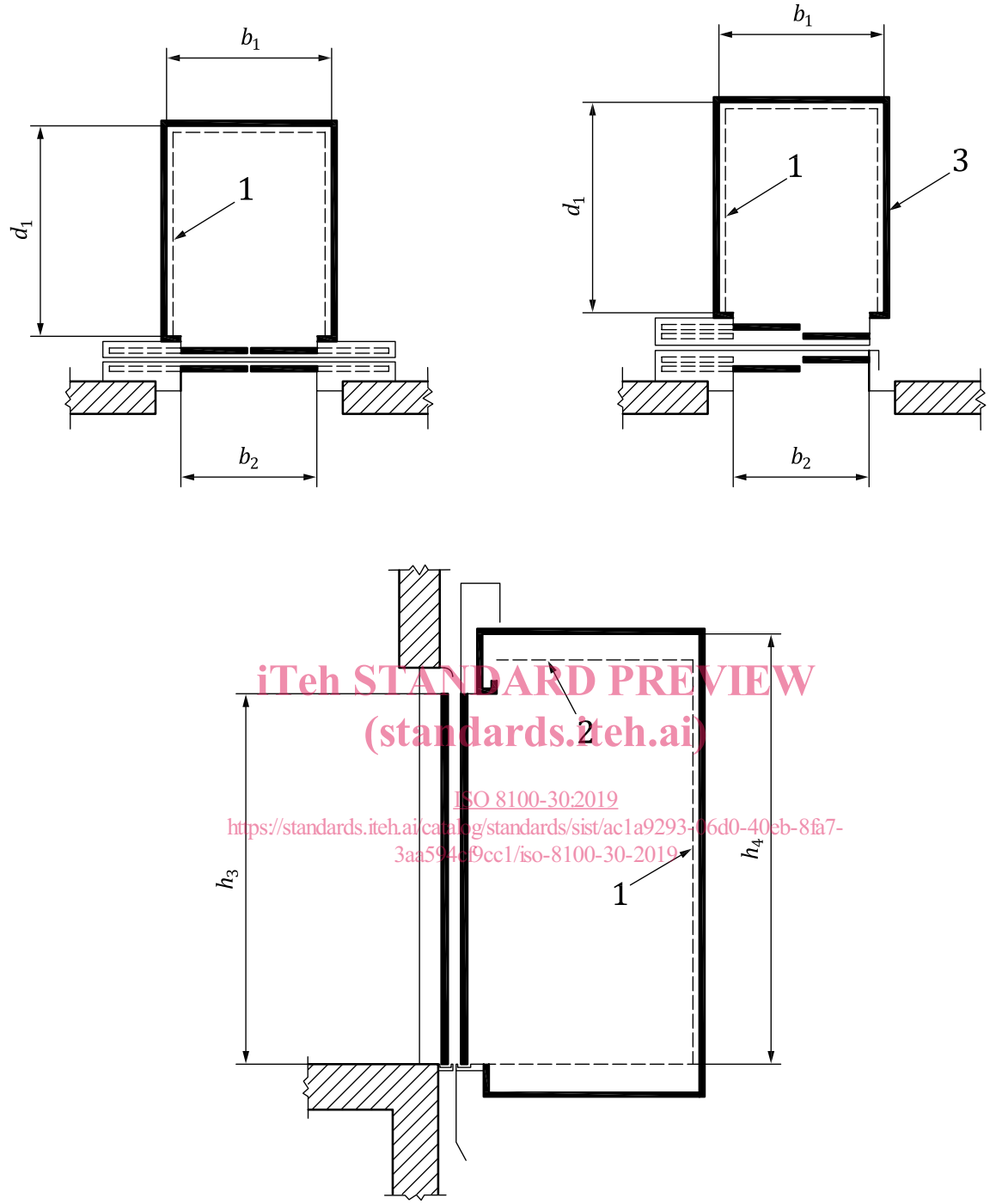
## 3.3 Terms related to dimensions

**3.3.1**
**car width**
$b_1$
horizontal distance between the inner surface of the car walls measured parallel to the front entrance side

Note 1 to entry: This dimension is measured as indicated in Figure 1, 1 m above the floor. In certain regions, e.g. Asia-Pacific and North American regions, the car width, $b_1$, is measured between the finished panels, whereas in Europe, the car width is measured excluding decorative or protective panels.

**3.3.2**
**car depth**
$d_1$
horizontal distance between the internal walls of the *car* (3.1.1), measured perpendicular to the front entrance side

Note 1 to entry: This dimension is measured as indicated in Figure 1, 1 m above the floor. In certain regions, e.g. Asia-Pacific and North American regions, the car depth, $d_1$, is measured between the finished panels, whereas in Europe, the car depth is measured excluding decorative or protective panels.






**Key**

1 decorative panels
2 false ceiling
3 car wall
$b_1$ car width
$b_2$ entrance width
$d_1$ car depth
$h_3$ entrance height
$h_4$ car height

**Figure 1 — Car and entrance dimensions**

**3.3.3**
**car height**
$h_4$
vertical inner distance between the entrance threshold and the constructional roof of the *car* (3.1.1)

Note 1 to entry: Light fittings and false ceilings should be accommodated within this dimension (see Figure 1).

Note 2 to entry: In certain regions, e.g. Asia-Pacific and North American regions, the car height, $h_4$, is measured between the floor and the underside of the false ceiling, whereas in Europe, the car height is measured to the underside of the structural roof.

**3.3.4**
**entrance width**
$b_2$
nominal clear width of the entrance, measured when the landing and car doors are fully open

Note 1 to entry: See Figure 1.

**3.3.5**
**entrance height**
$h_3$
clear height of the entrance, measured when the landing doors and car doors are fully open

Note 1 to entry: See Figure 1.

**3.3.6**
**well width**, GB
**hoistway width**, US
$b_3$
horizontal distance between the inner surface of the well walls, measured parallel to the *car width* (3.3.1)



Note 1 to entry: See Figures 2, 3 and 4.



**3.3.7**
**well depth**, GB
**hoistway depth**, US
$d_2$
horizontal dimension between the inner surface of the well walls, perpendicular to the width

Note 1 to entry: See Figures 2, 3 and 4.

**3.3.8**
**pit depth**
$d_3$
vertical distance between the finished floor of the lowest *landing* (3.1.3) served and the bottom of the *well* (3.1.8)

Note 1 to entry: See Figures 2, 3 and 4.

**3.3.9**
**headroom height**
$h_1$
vertical distance between the finished floor of the highest *landing* (3.1.3) served and the structural ceiling of the *well* (3.1.8)

Note 1 to entry: See Figures 2, 3 and 4.

**3.3.10**
**machine room width**
$b_4$
horizontal dimension between the inner surface of the walls, measured parallel to the *car width* (3.3.1)

Note 1 to entry: See Figures 3 and 4.

**3.3.11**
**machine room depth**
$d_4$
horizontal dimension between the inner surface of the walls, perpendicular to the width

Note 1 to entry: See Figures 3 and 4.

**3.3.12**
**machine room height**
$h_2$
smallest vertical distance between the finished floor and the room ceiling, satisfying both the requirements of the national building regulations and lift equipment

Note 1 to entry: See Figures 3 and 4.

## 3.4 Terms related to other characteristics

**3.4.1**
**rated speed**
$v_n$
speed in metres per second of the *car* (3.1.1) for which the equipment has been built



**3.4.2**
**rated load**
load which is intended to be carried in normal operation



**3.4.3**
**group collective lift**, GB
**group collective elevator**, US
group of electrically interconnected *lifts* (3.1.6) for which landing controls are common

# 4 Lift characteristics

## 4.1 Renard series

The dimensions of the car are related to the loads which have been selected to be close to the Renard R10 series of preferred numbers.

The dimensions of the pit, headroom and machine room have been determined in relation to the speeds which, up to 2,5 m/s, are based on the R5 series of preferred numbers.

NOTE The Renard series is a series of preferred numbers adopted at the international level in 1946 (Budapest International Congress).

The Renard series is a geometrical progression and has a multiplier selected on exponents of 10. For lifts, the multipliers are:

— car load: $R10 = \sqrt[10]{10} = 1{,}258\ 9$

— car speed: $R5 = \sqrt[5]{10} = 1{,}584\ 9$