Second edition
2021-06

Building construction — Accessibility and usability of the built environment

Cadre bâti — Accessibilité et usage de l'environnement bâti

Reference number
ISO 21542:2021(E)

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Published in Switzerland

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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 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 59, *Buildings and civil engineering works*, Subcommittee SC 16, *Accessibility and usability of the built environment*.

This second edition cancels and replaces the first edition (ISO 21542:2011), which has been technically revised.

The main changes compared to the previous edition are as follows:

a) document structure: a new hierarchy level has been introduced and the clauses have been assigned accordingly and partly resorted (e.g. Clause 5);

b) editorial revision of the Introduction and the Scope;

c) modification of the approach of exceptional considerations, which now only apply to existing buildings;

d) update of the normative references throughout the document;

e) revision of Clause 3 on terms and definitions according to the terminology used in the document and update of the sources;

f) restructuring of several (sub)clauses, especially those on:

   — orientation and information (5.1);

   — lighting (5.4);

   — acoustics (5.7);

   — paths to the building (6.3);

   — building entrances and final fire exits (6.5);

   — vertical and inclined lifting platforms (8.6);

- doorsets and windows (9.1);
- rooms and space within non-domestic buildings (Clause 10);

g) the provisions regarding tactile walking surface indicators (TWSI) have been adapted:

- ISO 23599:2019 has been widely referenced;
- a new subclause on tactile walking surface indicators has been introduced to 5.1;
- the annex on tactile walking surface indicators was revised and shortened;

h) revision of the provisions regarding visual contrast:

- the specifications in 5.3 have been revised and the relevant design factors were moved from the annex on human abilities and associated design considerations to it;
- a separate annex for the determination of the luminance contrast has been created;

i) complete revision and enlargement of the specifications on acoustics in 5.7 and emergency warning systems, signals and information in 5.8;

j) clarification and enlargement of the specifications on solitary obstacles in a path in 6.3.8;

k) complete revision of 6.4 on ramps and 8.5 on lifts;

l) enlargement of the specifications on control devices and signals (9.2) and drinking fountains (9.2.9);

m) revision of the clauses related to (fire) emergency evacuation:

- merger of the specifications related to (fire) emergency evacuation in Clause 11 but keeping the specifications on emergency warning systems in 5.8, on lifts used for evacuation in 8.5.8 and on fire-resisting doorsets 9.1.2;
- introduction of a subclause on emergency evacuation related building infrastructure;
- complete revision of the annex on fire prevention, protection, safety and evacuation (Annex D);

n) introduction of a new informative annex on housing (Annex A);

o) editorial revision of existing figures, removal of redundant figures and provision of new figures;

p) update of the Bibliography including the removal of national standards.

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 provides essential requirements and necessary recommendations for the realization of a safe, inclusive, age-friendly and sustainable built environment that is accessible and usable by all.

The purpose of this document is to describe how a building should be designed, constructed, managed and maintained in order to enable people to: approach and enter the building; use the building's facilities, services and information networks; egress from the building under normal conditions; and evacuate the building during an emergency.

Accessibility and usability for all is a dynamic and continuously evolving concept – a fundamental attribute of a sustainable built environment. It is a process of interlinked actions and tasks in the everyday lives of people, which enables them to be educated, to get a job, to participate fully in a community, and to feel socially included. Just one barrier, physical or otherwise, to that participation can restrict, terminate and make void the whole process.

The intention of this document is to meet the needs of the broadest majority of people. This goal is achieved by agreement on minimum standards of provision that are generally accepted to accommodate human diversity and variation, in age, ability, and behaviour, common in every society.

When the infrastructure of accessibility and usability is fully and effectively in place, good building management practice and procedures are essential to maintain original as-built or as-adapted performance during the life cycle of the building and, in the event of a fire or other emergency incidents, to ensure that the intended safety strategy is successfully initiated and executed.

The principles of accessibility and usability for all are supported by Preamble Paragraph (g), and Articles 9, 10, 11, 12 and 19 of the United Nations (UN) Convention on the Rights of Persons with Disabilities. These principles are reinforced by

— the UN 2015-2030 Sustainable Development Framework Agenda, particularly Sustainable Development Goal 11: 'Sustainable Cities & Communities';

— the World Health Organization’s 2016-2020 Global Strategy & Action Plan on Ageing & Health.

NOTE 1 The United Nations Convention on the Rights of Persons with Disabilities (CRPD), with its Optional Protocol, was adopted by the General Assembly on 13 December 2006. It came into force, i.e. it became an international legal instrument, on 3 May 2008. Full information can be found on the UN website: https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html.

NOTE 2 Protection of persons with disabilities during severe natural events, e.g. earthquakes, floods, landslides, typhoons and tsunamis, is dealt with under the Sendai Framework on Disaster Risk Reduction (2015 - 2030), which forms part of the UN Sustainable Development Framework Agenda.

If the design requirements and recommendations in this document are taken into consideration during the earliest stages of a new building design, the financial cost of providing accessibility and usability measures is minimal, and the completed building is safer and more user-friendly for every building user. For all existing buildings, effort should be made to meet the requirements to make them accessible and usable. It is also important to ensure that buildings of historical, architectural and cultural importance are accessible.

Where these design requirements are not considered, the socio-economic cost is considerable in terms of human rights violations and a significant reduction in building user safety and satisfaction.

ISO/IEC Guide 71, and its guidance document ISO/TR 22411, augment and assist in understanding the requirements of this document.

At present, consideration is being given to the development of further documents to especially deal with environments for children with disabilities and cultural heritage.