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Building environment design — Indoor environment — General principles

Conception de l'environnement des bâtiments — Environnement intérieur — Principes généraux

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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 205, *Building environment design*.

This second edition cancels and replaces the first edition (ISO 16813:2006), which has been technically revised.

The main changes are as follows:

— updated Clauses 2 and 3;

— revision of the flow diagram of the design process (Annex A);

— addition of the nine general principles of sustainability (NGPS) provided by ISO 15392;

— addition of subclauses on building environment parameters and variables, project team, commissioning, post-occupancy evaluation, and commissioning issues and lesson learned;

— deletion of Annex B on flow diagram of design process;

— addition of Annex B on building environment parameters and variables.

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.

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Introduction

This document provides general principles of building environment design and is intended for design team members, (e.g. architects, environmental designers and building system designers), as well as building clients, contractors, government officials and academic experts.

The aim is to assist these groups in applying an effective design process in order to achieve a balance between comfort and environmental considerations. This document specifies the design drawings and specifications to be evaluated at every design stage. This document also provides the framework for sustainability issues to be considered in the design requirements and the constraints to take into consideration from very early stages of the building design process.

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Building environment design — Indoor environment — General principles

1 Scope

This document establishes the general principles of building environment design to achieve a quality building environment for the occupants and sustainability. This document promotes an approach in which the various parties involved in building environment design collaborate with one another to provide a high-quality building environment.

The design process aims to achieve the following:

— to address issues concerning sustainability over the building life cycle, including owning and operating costs at all stages of the design process;

— to assess the proposed design with rational criteria for the thermal, acoustic and visual environment, the indoor air quality, energy efficiency and performance of technical building systems at each design stage;

— to use an iterative design process in which each design stage is subject to design review and decisions before proceeding with the next design phase.

The building environment design involves not only the architectural design associated with the environmental quality, but also building system design including effective control methods.

This document is applicable to building environment design for new construction and retrofitting existing buildings.

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
commissioning
sequence of events that ensures the building and the *technical building systems* (3.7) are functioning in accordance with the building environment parameters in the design specifications for the building lifetime

3.2
commissioning process
systematic application of processes and procedures designed to ensure that the project objectives are achieved and maintained throughout the building lifetime

Note 1 to entry: The commissioning process begins at project conception and continues through to the pre-design, design, construction, start-up, turnover and occupancy to the operation phase.

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