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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 16813 was prepared by Technical Committee ISO/TC 205, *Building environment design*.

Introduction

This International Standard gives the general principles of building environment design and has been prepared for building designers, i.e. architects, environmental designers and building system designers, as well as building clients, contractors, government officials, and academic staff.

The aim is to assist these groups in applying an effective design process in the pursuit of high-quality indoor environment for the occupants, while also seeking to protect the environment for the future generations. This International Standard provides the framework for sustainability issues to be taken into account in the design constraints from the very early stages of building design and requires the design drawings and specifications to be evaluated at every design stage according to the criteria provided by other relevant standards.

Building environment design — Indoor environment — General principles

1 Scope

This International Standard establishes the general principles of building environment design taking into account healthy indoor environment for the occupants, and protecting the environment for future generations. This International Standard promotes an approach in which the various parties involved in building environmental design collaborate with one another to provide a sustainable building environment. The unique features of the design process are articulated by the following aims:

— to provide the constraints concerning sustainability issues from the initial stage of the design process, including building and plant life cycle together with owning and operating costs to be considered at all stages in the design process;

— to assess the proposed design with rational criteria for indoor air quality, thermal comfort, acoustical comfort, visual comfort, energy efficiency and HVAC system controls at every stage of the design process;

— to make iterations between decisions and evaluations of the design throughout the design process.

The building environment design involves not only architectural design associated with environmental quality but also environmental system design associated with effective controls. This International Standard is applicable to building environment design for new construction and the retrofit of existing buildings.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15686-1, *Buildings and constructed assets —Service life planning — Part 1: General principles*

3 Terms and definitions

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

3.1
acoustic comfort
reaction of occupants to the indoor acoustical environment, described in terms of sound pressure level and audibility

3.2
competent person
person who is capable of relating and understanding all the design parameters involved in the design of the building and its associated services