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Building environment design — Indoor environment — Design process for the visual environment

*Conception de l'environnement des bâtiments — Environnement
intérieur — Processus de conception de l'environnement visuel*



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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).

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For an explanation on 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 the following URL: 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 16817:2012), which has been technically revised.

Introduction

ISO 16813 defines general principles for the design of building indoor environment and helps the main participants in the design process to ensure an indoor environment of the quality required for users.

The purpose of this document is to provide design team members with a design process for the indoor visual environment to aid provision of, in a sustainable approach, required visual comfort, physiological effects of light and energy performance of buildings. Visual comfort does not necessarily only provide a suitable lighting for executing a task. For example, a window has at least two functions: to facilitate the entry of daylight and to provide a view.

The design of an indoor visual environment of the required quality for users takes into account human needs that include elements linked to performance, visual comfort, health, safety and well-being.

The objective of this document is to provide the design team at each phase of the design process with a way to implement the nine general principles of sustainability (NGPS) in buildings, as described in ISO 15392 and how to integrate these principles in their decision-making processes, in order to be part of a sustainable approach.

Concerning research in illuminating and lighting, work by the International Commission on Illumination (CIE) should be consulted. The existing CIE and CEN standards are used and any new work is performed in close coordination with CIE and CEN.

This document

- provides a framework for taking into consideration various parameters and criteria that influence the quality of the indoor visual environment,
- is prepared for design teams (architects and engineers), as well as building clients, contractors, government officials, and academic staff,
- is aimed at assisting these groups in applying an effective design process in the pursuit of an indoor visual environment of the required quality for the users,
- incorporates sustainability considerations, and
- is prepared on the basis of the following fundamental ideas:
 - it addresses the standardization of a design process elaborated through a systemic approach, a system of tasks that are structured together;
 - it is a guideline which invites designers to follow an iterative and progressive approach, to make choices and take compromise solutions according to the goals of the client, to the constraints and the opportunities linked to the building site, in relation to the main areas of work covered by ISO/TC 205;
 - it allows the performance level or values to be established by the programme and/or applicable regulation.