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Indoor air —

Part 40: Indoor air quality management system

Air intérieur —

Partie 40: Système de management de la qualité de l'air intérieur

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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 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 146, *Air quality*, Subcommittee SC 6, *Indoor air*.

A list of all parts in the ISO 16000 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.

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Introduction

When not in the home urban populations spend most of the time indoors working in commercial buildings, enjoy leisure time in hotels or shopping malls, or maybe using services in hospitals and transportation centers among other types of facilities. There are many scientific studies showing that special characteristics of indoor air pollution make enclosed spaces quite different from the outdoors in terms of the quality of the air. There is a lot of knowledge about indoor air pollution, however, there is a general lack of practical application of most of this information in the everyday life of the general public, this document aims to help the managers of indoor built environments to apply protocols and maintenance programs intended to enhance indoor air quality.

This document will help facility managers to apply protocols and maintenance processes designed to enhance indoor air quality in their indoor spaces.

Controlling the quality of the indoor air can have enormous social benefits in terms of comfort and health of the population, therefore enhancing productivity and minimizing absenteeism in commercial premises as well as minimising nosocomial infections in hospital environments.

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Indoor air —

Part 40: Indoor air quality management system

1 Scope

This document specifies requirements for an indoor air quality management system.

It is applicable to any organization that wishes to:

a) establish a system for the management of the quality of indoor air;

b) implement, maintain and continually improve the indoor air quality management system;

c) ensure conformity to the indoor air quality management system;

d) demonstrate conformity to this document.

It is applicable to the indoor environments of all kinds of facilities, installations and buildings, except those that are exclusively dedicated to industrial and/or agriculture activities.

It is applicable to all types of indoor environments occupied by all kinds of persons, including regular users, clients, workers, etc.

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
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.8)

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: For organizations with more than one operating unit, a single operating unit may be defined as an organization.

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3.2
interested party
stakeholder
person or *organization* (3.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity

3.3
requirement
need or expectation that is stated, generally implied or obligatory

Note 1 to entry: "Generally implied" means that it is custom or common practice for the organization and interested parties that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, e.g. in documented information.

3.4
management system
set of interrelated or interacting elements of an *organization* (3.1) to establish *policies* (3.7) and *objectives* (3.8) and *processes* (3.12) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning and operation.

Note 3 to entry: The scope of a management system can include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

3.5
management
person or group of people who directs and controls an *organization* (3.1) at the highest level

Note 1 to entry: Management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.4) covers only part of an organization, then management refers to those who direct and control that part of the organization.

3.6
effectiveness
extent to which planned activities are realized and planned results achieved

3.7
policy
intentions and direction of an *organization* (3.1), as formally expressed by its *management* (3.5)

3.8
objective
result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels [such as strategic, organization-wide, project, product and *process* (3.12)].

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, another objective, or by the use of other words with similar meaning (e.g. aim, goal, or target).

Note 4 to entry: In the context of indoor air quality management system, indoor air quality objectives are set by the organization, consistent with its policy, to achieve specific results.

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3.9
risk
effect of uncertainty

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential "events" (as defined in ISO Guide 73) and "consequences" (as defined in ISO Guide 73), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated "likelihood" (as defined in ISO Guide 73) of occurrence.

3.10
competence
ability to apply knowledge and skills to achieve intended results

3.11
documented information
information required to be controlled and maintained by an *organization* (3.1) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media, and from any source.

Note 2 to entry: Documented information can refer to:

— the *management system* (3.4), including related *processes* (3.12);

— information created in order for the organization to operate (documentation);

— evidence results achieved (records).

3.12
process
set of interrelated or interacting activities which transforms inputs into outputs

3.13
performance
measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to managing activities, *processes* (3.12), products (including services), systems or *organizations* (3.1).

3.14
outsource
make an arrangement where an external *organization* (3.1) performs part of an organization's function or *process* (3.12)

Note 1 to entry: An external organization is outside the scope of the *management system* (3.4), although the outsourced function or process is within the scope.

3.15
monitoring
determining the status of a system, a *process* (3.12) or an activity

Note 1 to entry: To determine the status, there can be a need to check, supervise or critically observe.

3.16
measurement
process (3.12) to determine a value

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3.17
audit
systematic, independent and documented *process* (3.12) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines).

Note 2 to entry: An internal audit is conducted by the organization itself, or by an external party on its behalf.

Note 3 to entry: "Audit evidence" and "audit criteria" are defined in ISO 19011.

3.18
conformity
fulfilment of a *requirement* (3.3)

3.19
non conformity
non-fulfilment of a r*equirement* (3.3)

3.20
corrective action
action to eliminate the cause(s) of a *nonconformity* (3.19) and to prevent recurrence

3.21
continual improvement
recurring activity to enhance *performance* (3.13)

3.22
indoor environment
environment delimited by the envelope of the enclosures for any use except those dedicated exclusively to industrial and/or agricultural activities

[SOURCE: UNE 171330-1:2008]

3.23
indoor air quality aspect
elements of the site and its surroundings, activities and/or services of an organization that can interact with indoor quality

[SOURCE: UNE 171330-1:2008]

3.24
indoor air quality
quality of air inside a building, described in terms of odour, physical parameters, chemical and biological pollutants

Note 1 to entry: Indoor air quality is directly related to the ventilation rate, air distribution patterns and pollution sources.

Note 2 to entry: Indoor air quality is important in ensuring human health, olfactory comfort and perceived comfort.

Note 3 to entry: Adapted from ISO 16813:2006, 3.21. The definition has been simplified to refer to a building in general, versus only non-industrial buildings, and the non-essential but relevant characteristics are now referenced in notes.

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