
Fire detection and alarm systems —

Part 14:

**Guidelines for drafting codes of practice
for design, installation and use of fire
detection and fire alarm systems in and
around buildings**

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Systemes de detection d'incendie et d'alarme —

*Partie 14: Lignes directrices pour la rédaction des codes de pratique
pour la conception, l'installation et l'utilisation des systèmes de
détection d'incendie et d'alarme à l'intérieur et autour des bâtiments*

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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.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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/TR 7240-14 was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 3, *Fire detection and alarm systems*.

ISO/TR 7240 consists of the following parts, under the general title *Fire detection and alarm systems*:

- *Part 1: General and definitions*
- *Part 2: Control and indicating equipment*
- *Part 4: Power supply equipment*
- *Part 5: Point-type heat detectors*
- *Part 6: Point-type fire detectors for detection of carbon monoxide*
- *Part 7: Point-type smoke detectors using scattered light, transmitted light or ionization*
- *Part 11: Manual call points*
- *Part 14: Guidelines for drafting codes of practice for design, installation and use of fire detection and fire alarm systems in and around buildings* [Technical Report]
- *Part 15: Point-type multisensor (light and heat) fire detectors*

Compatibility assessment of system components and carbon monoxide point-type fire detectors using electrochemical cells are to form the subjects of future Parts 13 and 16.

Introduction

The installation of a fire detection and fire alarm system can only be successfully accomplished if the following conditions are fulfilled:

- materials are of a suitable quality;
- special knowledge in the field of fire detection;
- skilled personnel to carry out the work.

Although the quality of the material can be ensured by proper standards and quality audits, the overall effectiveness of an installation depends widely on the quality of work and the experience of the designer and installer.

The general purpose of a code of practice is to give recommendations that are the result of knowledge and experience in order to share the learning with other stakeholders.

From the objectives of a code of practice, it follows that it must be continuously adapted to incorporate new experiences, otherwise a code could block the progress or the introduction of new technologies.

In the past, most industrialized countries have developed codes of practice. However, they differ from each other because they reflect the experience made in the respective country. Due to these differences, it is not possible to write an international code of practice. Therefore, ISO/TC21/SC3 proposes to use these guidelines with the following objectives:

- development of national codes of practice in countries which do not yet have such a code;
- redraft existing codes using the proposed format in order for them to be more consistent.

The table of contents is structured in such a way that the different phases during the life of the fire detection and fire alarm system are dealt with in separate clauses starting with the planning phase. The importance of clear assignments of responsibilities and of documentation is emphasized by dedicated clauses.

It is not the intent of this document to restrict the content of any national code to those clauses given. However, since one of the intentions of this document is to allow easier comparison between codes from different countries, the clause numbering should generally be followed. Where a country has no requirements under the heading given in the document, then it is recommended that the clause be inserted with the comment "No requirements".

The object should be defined for each clause to avoid misinterpretations.

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Fire detection and alarm systems —

Part 14:

Guidelines for drafting codes of practice for design, installation and use of fire detection and fire alarm systems in and around buildings

1 Scope

This Technical Report is intended to be used as a general guideline for the preparation of a code of practice for the design, installation and use of a fire detection and fire alarm system.

It describes the format, the table of contents and the objectives of the different clauses of the code of practice.

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 7240-1, *Fire detection and alarm systems — Part 1: General and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7240-1 and the following apply.

3.1

certification

written confirmation that a certain work or service has been carried out; the result of certification is a signed document (certificate) which may be counter-signed and can be used as testimony

3.2

configuration

arrangement of components of a fire detection and fire alarm system specified by number, type and topology, together with any necessary limits on the connecting links

3.3

detection concept

description of the design of the fire detection and fire alarm system with a justification of the choice of detectors, its sensitivity and its spacing; description of the alarm organization, i.e. all measures to be taken in case of an alarm

3.4

documentation

drawings and instructions necessary to understand and to operate the fire detection and fire alarm system

3.5

log

record of essential events relating to the fire detection and fire alarm system

3.6

planning

paper work, studies and analysis concerning the design of a fire detection and fire alarm system before starting wiring and hardware installation as e.g.:

- design considerations;
- detection concept;
- drawings;
- quotations

3.7

project plan

layout of the whole wiring plan including the indication of the location of all components of the fire detection and fire alarm system

3.8

service

inspection, testing, maintenance and repair

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4 Content of code of practice

The code of practice should contain the following clause headings in accordance with Table 1.

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Table 1 — Content of code of practice

Number	Clause	Subclause	sub subclause	Explanation or recommended text
1	Scope			<p>This standard provides recommendations for the planning, design, installation, commissioning and servicing of manual and automatic fire detection and fire alarm systems in and around buildings.</p> <p>It also covers systems capable of providing signals to initiate the operation of ancillary technical services, such as fixed fire extinguishing systems and other precautions and actions.</p>
2	Terms and definitions			<p>Definitions for all technical terms that are used in this standard so far as they are needed for a clear understanding.</p> <p>Definitions of terms that are already defined in other standards for components of fire detection systems shall be used.</p>
3	Normative references			An overview of all standards and relevant documents that have to be considered.
4	Design requirements			<p>Allows for the introduction of national requirements for the general design of systems. Examples of subjects which could be covered are:</p> <ul style="list-style-type: none"> — restrictions on the number of detectors to be connected to one circuit; — requirements for provisions for testing; — special requirements for circuits having both detectors and alarm devices; — special requirements for the combination of initiating and indicating circuits; — use of special installation material, e.g. shielded cable, conduits.
5	Planning			
5.1	Planning	Responsibilities		A written assignment of responsibilities for the whole phase of planning a fire detection and fire alarm system is recommended. A document shall be signed by a responsible person describing the field of responsibility in such detail that undefined areas and overlapping with other responsibilities are avoided.
5.2	Planning	Qualifications		<p>Recommendations are given concerning the professional qualification of personnel responsible for the planning of a fire detection and fire alarm system, for example:</p> <ul style="list-style-type: none"> — engineer with proven experience in the field of fire detection technology; — experienced consulting company; — experienced installer.