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**Ergonomic requirements for office work with visual display terminals (VDTs) - Part 17: Form filling dialogues (ISO 9241-17:1998)**

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Ergonomische Anforderungen für Bürotätigkeiten mit Bildschirmgeräten - Teil 17: Dialogführung mittels Bildschirmformularen (ISO 9241-17:1998)

Exigences ergonomiques pour travail de bureau avec terminaux a écrans de visualisation (TEV) - Partie 17: Dialogues de type remplissage de formulaires (ISO 9241-17:1998)

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**ICS:**

13.180	Ergonomija	Ergonomics
35.180	Terminalska in druga periferna oprema IT	IT Terminal and other peripheral equipment

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## Ergonomic requirements for office work with visual display terminals (VDTs) - Part 17: Form filling dialogues (ISO 9241-17:1998)

Exigences ergonomiques pour travail de bureau avec terminaux à écrans de visualisation (TEV) - Partie 17: Dialogues de type remplissage de formulaires (ISO 9241-17:1998)

This European Standard was approved by CEN on 15 June 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

## Foreword

The text of the International Standard ISO 9241-17:1998 has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with CEN/CS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 1999, and conflicting national standards shall be withdrawn at the latest by February 1999.

**NOTE FROM CEN/CS:** The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

## Endorsement notice

The text of the International Standard ISO 9241-17:1998 was approved by CEN as a European Standard without any modification.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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## **Ergonomic requirements for office work with visual display terminals (VDTs) —**

### **Part 17: Form filling dialogues**

*Exigences ergonomiques pour travail de bureau avec terminaux à écrans  
de visualisation (TEV) —*

*Partie 17: Dialogues de type remplissage de formulaires*

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ISO 9241-17:1998(E)

## ISO 9241-17:1998(E)

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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.

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.

International Standard ISO 9241 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

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ISO 9241 consists of the following parts, under the general title *Ergonomic requirements for office work with visual display terminals (VDTs)*:

- Part 1: *General introduction*
- Part 2: *Guidance on task requirements*
- Part 3: *Visual display requirements*
- Part 4: *Keyboard requirements*
- Part 5: *Workstation layout and postural requirements*
- Part 6: *Guidance on the work environment*
- Part 7: *Display requirements with reflections*
- Part 8: *Requirements for displayed colours*
- Part 9: *Requirements for non-keyboard input devices*
- Part 10: *Dialogue principles*
- Part 11: *Guidance on usability*
- Part 12: *Presentation of information*
- Part 13: *User guidance*
- Part 14: *Menu dialogues*



- *Part 15: Command dialogues*
- *Part 16: Direct manipulation dialogues*
- *Part 17: Form filling dialogues*

Annexes A and B of this part of ISO 9241 are for information only.

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## Introduction

ISO 9241 is a multipart standard that deals with both the hardware and software ergonomic aspects of the use of VDTs. The description of the parts, their interrelationships, and a description of the expected users of the parts is provided in ISO 9241-1:1992, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 1: General introduction*.

This part of ISO 9241 is concerned with the ergonomic design of form filling dialogues. In form filling dialogues, users fill in, select entries for, or modify labelled fields on an area of the screen display.

This part of ISO 9241 serves the following types of users:

- a) The user interface designer, who will apply this part of ISO 9241 during the development process.
- b) The designer of printed forms which serve as source documents.
- c) The buyer, who will reference this part of ISO 9241 during the product procurement process.
- d) Evaluators responsible for ensuring products meet the recommendations in this part of ISO 9241.
- e) Designers of user interface development tools to be used by interface designers.
- f) End users who will gain from the potential benefits provided by this part of ISO 9241.

This part of ISO 9241 consists of a number of conditional recommendations concerning form filling dialogues. Conditional recommendations are recommendations which should be met only within the specific context for which they are relevant (e.g, particular kinds of users, tasks, environments, technology). These conditional recommendations were developed primarily by reviewing the existing relevant literature and empirical evidence, then generalizing and formulating this work into recommendations for use by the interface designer and/or evaluator. Sources for the individual recommendations are listed in Informative Annex B.

Designers using this part of ISO 9241 need to know that they are developing an interface that will meet the recommendations provided in this part. Likewise, buyers and evaluators need a means to determine how a product matches the recommendations in this part of ISO 9241. It is not intended that every recommendation should be applied, only those that are relevant. Informative Annex A provides an example of a procedure for evaluating the applicability of and adherence to the conditional

recommendations provided in this part of ISO 9241. Design objectives are provided prior to each of the major clauses to focus on the intent of the recommendations within the clause.

The application of this part of ISO 9241 is expected to improve the overall quality of the form filling dialogue, but this standard (like any other standard) will not guarantee the quality of the interface. Quality depends on specific usability criteria as set by the user, buyer or other form filling dialogue consumer which may include specifications based on this part of ISO 9241.

It should be noted that ISO 9241-10 describes dialogue principles that are relevant for the design of form filling dialogues. These principles should provide the designer and evaluator with additional information concerning the ergonomic rationale for the various recommendations in this part of ISO 9241 and, therefore, assist in making tradeoffs. However, it may be necessary to base tradeoffs on other considerations as well.

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# Ergonomic requirements for office work with visual display terminals (VDTs) —

## Part 17: Form filling dialogues

### 1 Scope

This part of ISO 9241 provides conditional recommendations on dialogue design, input design and output design for computer dialogues in which form filling and dialogue boxes are used to accomplish typical office tasks. **Form filling dialogues** are dialogues in which the user fills in, selects entries for, or modifies labelled fields on a "form" or a dialogue box presented by the system. Often the system then creates, or updates the database associated with the form. Form filling entries typically are in the form of typed input (abbreviations, or full names) or selections from available option lists. This part of ISO 9241 pertains to form filling dialogues generated through both VDT character-based and bit-mapped screen displays (often referred to as "GUIs") and input through keyboards and optional pointing devices (e.g. mice). In addition, this part includes the use of non-text methods for providing forms entries (e.g. list boxes) and pertains to dialogue boxes which utilize form filling dialogue techniques. It should be noted that some of the recommendations in this part of ISO 9241 are based on Western Language conventions. For other languages, the recommendations may need to be modified to fit the readability considerations inherent in these languages. These recommendations can be utilized throughout the development process (e.g., as guidance for designers during design, as a basis for heuristic evaluation, as guidance for usability testing) and in the procurement process.

Interface design depends upon the task, the user, the environment, and the available technology. Consequently, this part of ISO 9241 cannot be applied without a knowledge of the design and use context of the interface and it is not intended to be used as a prescriptive set of rules to be applied in their entirety (see ISO 9241-11). Rather, it assumes that the designer has proper information available concerning task and user requirements and understands the use of available technology (this may require consultation with a qualified ergonomics professional as well as empirical testing with real users).

The recommendations relate to the three major design components of user interfaces, i.e., dialogue, input, and output.

Dialogue design determines the way in which a user is guided by the system to make inputs and influences the amount of control the user has over the dialogue. Form filling dialogues should be designed to support the user in his/her actual work without creating additional work caused by system peculiarities as well as enabling the user to become well-informed and to remain in control of the flow of work (also, see ISO 9241-10 which deals with dialogue principles). Dialogue design is covered in this part of ISO 9241 in terms of designing form filling structures, providing feedback mechanisms and providing appropriate navigation methods.

Input design is concerned with how input devices can be applied to facilitate the entry and modification of form fields. One or more devices such as an alphanumeric keyboard, function keys, pointing devices and voice (other devices are not excluded) can be provided depending on the task at hand and dialogue requirements, as well as on individual preferences. This part of ISO 9241 provides conditional recommendations for text entry, choice entry, and control using various input devices.