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

Part 1:
General introduction

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

Partie 1: Introduction générale



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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 9241-1 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human system interaction*.

This second edition cancels and replaces the first edition (ISO 9241-1:1992), which has been technically revised.

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: Environmental requirements
- Part 7: Requirements for display with reflection
- Part 8: Requirements for displayed colours
- Part 9: Requirements for nonkeyboard 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

Annex A of this part of ISO 9241 is for information only.

Introduction

One of the main concerns of ergonomics is to ensure that products and systems are fit for human use. In general this involves matching the design of products or systems, including displays, input devices, software, workplace, working environment and tasks, to the characteristics, capabilities and limitations of potential users. Improving the ergonomic properties of systems will improve performance, reduce errors and discomfort, and minimize health and safety risks. Failure to take account of human capabilities is wasteful, will reduce efficiency and result in boring, tedious work.

In practice, all users of products or systems are different; it is important to understand in what ways they vary and to quantify the variation so that account can be taken of it in design. Both hardware and software can be used for many different tasks, and in a variety of working environments, and it is also important to take these factors into consideration in design. Good ergonomic design is important in any product or system designed for human use. It is especially important when :

- use is intensive;
- accuracy or speed of the user's performance is critical;
- user acceptance is critical.

Work with visual display terminals (VDTs) is often both intensive and a significant part of many office workers' jobs. The characteristics of both hardware and software can substantially affect the user's performance. Increasingly, users, their representatives and managers are concerned with ensuring that work with VDTs is designed to appropriate standards. What is appropriate in one set of circumstances may be inappropriate in a different context; when using VDT ergonomics standards it is important to recognize that the potential range of application is very broad. Therefore ergonomics standards often take the form of recommendations, or requirements, which are conditional upon certain defined circumstances.

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

Part 1: General introduction

1 Scope

This part of ISO 9241

- introduces the multipart standard on ergonomic requirements for the use of visual display terminals for office tasks;
- provides guidelines for a user-performance approach;
- gives an overview of all parts of ISO 9241 currently published and of the anticipated content of those in preparation;
- provides some guidance on how to use ISO 9241;
- describes how conformance to ISO 9241 should be reported.

For the purposes of ISO 9241, office tasks are taken to include a wide range of generic text and data processing tasks. Due to the similarity of these tasks to tasks performed in other environments, e.g. medical, scientific, telecommunications, control rooms and public access, many of the requirements in ISO 9241 are appropriate to these environments as well.

ISO 9241 does not cover electrical safety of VDTs. This is covered by IEC 950.

NOTE — The ergonomic requirements of flat panel displays are covered in ISO 13406-1 and ISO 13406-2. More extensive guidance on human-centred design for interactive systems is provided in ISO 13407.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 9241. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9241 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of the IEC and ISO maintain registers of currently valid International Standards.

ISO 6385:—¹⁾, *Ergonomic principles of the design of work systems*.

3 Definitions

For the purposes of this part of ISO 9241, the definitions given in ISO 6385 and the following definitions apply.

3.1 user-performance approach

Approach to systems evaluation which sets requirements on a system based on the level of performance which users are expected to achieve when carrying out relevant tasks.

1) To be published. (Revision of ISO 6385:1981)