
**Ergonomske zahteve za pisarniško delo s slikovno zaslonsko opremo - 12. del:
Prikaz informacij (ISO 9241-12:1998)**

Ergonomic requirements for office work with visual display terminals (VDTs) - Part 12:
Presentation of information (ISO 9241-12:1998)

Ergonomische Anforderungen für Bürotätigkeit mit Bildschirmgeräten - Teil 12:
Informationsdarstellung (ISO 9241-12:1998)

Exigences ergonomiques pour travail de bureau avec terminaux a écrans de
visualisation (TEV) - Partie 12: Présentation de l'information (ISO 9241-12:1998)

[https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-](https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fe30f3b2d78/sist-en-iso-9241-12-2001)

Ta slovenski standard je istoveten z: EN ISO 9241-12:1998

ICS:

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

SIST EN ISO 9241-12:2001**en**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 9241-12:2001

<https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30f3b2d78/sist-en-iso-9241-12-2001>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 9241-12

December 1998

ICS 13.180; 35.180

Descriptors: see ISO document

English version

Ergonomic requirements for office work with visual display
terminals (VDTs) - Part 12: Presentation of information (ISO
9241-12:1998)

Exigences ergonomiques pour travail de bureau avec
terminaux à écrans de visualisation (TEV) - Partie 12:
Présentation de l'information (ISO 9241-12:1998)

Ergonomische Anforderungen für Bürotätigkeit mit
Bildschirmgeräten - Teil 12: Informationsdarstellung (ISO
9241-12:1998)

This European Standard was approved by CEN on 16 December 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

Page 2
EN ISO 9241-12:1998

Foreword

The text of the International Standard ISO 9241-12:1998 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 June 1999, and conflicting national standards shall be withdrawn at the latest by June 1999.

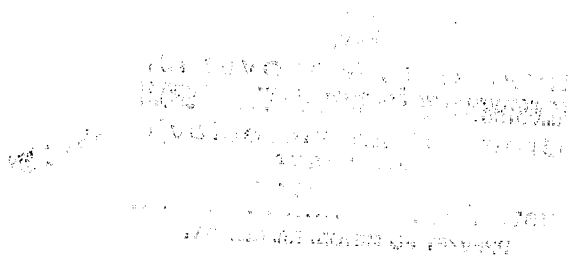
According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal,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

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.

ITeH STANDARD PREVIEW
(standards.iteh.ai)

The text of the International Standard ISO 9241-12:1998 was approved by CEN as a European Standard without any modification.

[SIST EN ISO 9241-12:2001
https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5f30f3b2d78/sist-en-iso-9241-12-2001](https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5f30f3b2d78/sist-en-iso-9241-12-2001)



INTERNATIONAL STANDARD

ISO
9241-12

First edition
1998-12-01

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

Part 12: Presentation of information

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

Partie 12: Présentation de l'information

[SIST EN ISO 9241-12:2001](https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30fb2d78/sist-en-iso-9241-12-2001)

<https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30fb2d78/sist-en-iso-9241-12-2001>



Reference number
ISO 9241-12:1998(E)

ISO 9241-12:1998(E)

Contents	Page
1 Scope	1
2 Normative references	1
3 Definitions	2
4 Application of this part of ISO 9241	7
4.1 Characteristics of presented information	7
4.2 Applying the recommendations	8
4.3 Evaluation of products	8
5 Organization of information	8
5.1 Location of information	8
5.2 Appropriateness of windows	8
5.3 Recommendations for windows	9
5.4 Areas	10
5.5 Input/output area	11
5.6 Groups	11
5.7 Lists	13
5.8 Tables	15
5.9 Labels	16
5.10 Fields	17
6 Graphical objects	18
6.1 General recommendations for graphical objects	18
6.2 Cursors and pointers	18
7 Coding techniques	19
7.1 General recommendations for codes	19
7.2 Alphanumeric coding	21
7.3 Abbreviations for alphanumeric codes	21
7.4 Graphical coding	21
7.5 Colour coding	22
7.6 Markers	24
7.7 Other coding techniques	24
Annex A (informative) Sample procedure for assessing applicability and adherence	26
Annex B (informative) Bibliography	46

© ISO 1998

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

Printed in Switzerland

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 9241-12 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

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.

Introduction

ISO 9241 is a multipart International 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 described in ISO 9241-1.

This part of ISO 9241 deals with the visual presentation of information using visual display terminals (VDTs). It includes (in clause 4) design objectives which provide high level guidance on the presentation of information. This part of ISO 9241 is concerned with the organization of information and with the usage of coding techniques in order to improve user performance and satisfaction. Clauses 5 to 7 provide recommendations for display design and apply generally to all dialogue techniques. This part of ISO 9241 can be used in conjunction with other forms of guidance. For example, ISO 9241-10 ([2] in annex B) provides seven principles, each of which can be supported by presenting information on displays in appropriate ways.

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 buyer, who will reference this part of ISO 9241 during the product procurement process, and whose end-users will gain from the potential benefits provided by the standard.
- c) Those responsible for ensuring products meet the recommendations in this part of ISO 9241.
- d) Designers of user interface development tools to be used by interface designers.
- e) Writers of software industry standard guides to be used by interface designers, for example, "interface style guides".

Other common sources of guidance include software industry "interface style guides". Once technical issues about the nature of the system hardware and software have been considered, additional guidance can be provided which generally helps to increase the consistency of the interface design. Typically, these industry style guides describe a specific way of implementing the type of higher level general guidance offered in this part of ISO 9241.

The ultimate beneficiary of this part of ISO 9241 will be the end-user at the VDT. Although it is unlikely that the end-user will read this part of ISO 9241 or even know of its existence, its application by designers, buyers, and evaluators should provide user interfaces that are more usable, consistent and that enable greater productivity.

This part of ISO 9241 consists of general recommendations and conditional recommendations concerning presentation of information. General recommendations apply to most users, tasks, environments, and technology. In contrast, conditional recommendations are those that apply only within the specific context for which they are relevant (e.g. particular kinds of users, tasks, environments, technology). Conditional recommendations have an "if-then" structure. The 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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 9241-12:2001](https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30f3b2d78/sist-en-iso-9241-12-2001)

<https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30f3b2d78/sist-en-iso-9241-12-2001>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 9241-12:2001](#)

<https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30f3b2d78/sist-en-iso-9241-12-2001>

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

Part 12: Presentation of information

1 Scope

This part of ISO 9241 provides ergonomic recommendations for the presentation of information and specific properties of presented information on text-based and graphical user interfaces used for office tasks. It provides recommendations for the design and evaluation of visual presentation of information including coding techniques. These recommendations can be utilized throughout the design process (for example as guidance for designers during design, as a basis for heuristic evaluation, as guidance for usability testing). The coverage of colour is limited to ergonomic recommendations for the use of colour for highlighting and categorizing information (see ISO 9241-8 for additional recommendations for the use of colour).

This part of ISO 9241 does not address auditory presentation of information.

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 the context of use of the interface, and it is not intended to be used as a prescriptive set of rules to be applied in its entirety. 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).

NOTE 1 Although this is an International Standard, some of the conditional recommendations are based on Latin-based language usage and may not apply, or may need to be modified, for use with a different language. For example, in right-to-left languages those conditional recommendations oriented towards left-to-right reading may need to be modified and adapted. In applying those conditional recommendations that assume a specific language base (e.g. alphabetic ordering of coding information, items in a list), care should be taken concerning the intent of this part of ISO 9241 when translation is required to a different language.

NOTE 2 Providing users with the capability to alter the interface to suit their own needs has become a popular approach to software interface design. This is often a desirable feature of the interface. However, providing users with customization capabilities is not an acceptable substitute for an ergonomically designed interface (e.g. default windows, colour settings). Note that customization of the presentation of information may result in deviations from this part of ISO 9241.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9241. At the time of publication, the editions indicated were 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 editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 9241-3:1992, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 3: Visual display requirements.*

ISO 9241-8:1997, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 8: Requirements for displayed colours.*

ISO 9241-11:1998, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 11: Guidance on usability.*

ISO 9241-14:1997, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 14: Menu dialogues.*

ISO 9241-15:1997, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 15: Command dialogues.*

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

ISO/IEC 11581-3:—¹⁾, *Information technology — User-system interfaces and symbols — Icon symbols and functions — Part 3: Pointers.*

3 Definitions

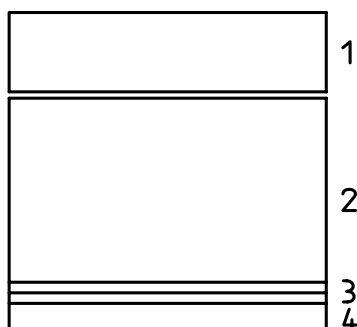
For the purposes of this part of ISO 9241, the following definitions apply.

3.1 area

section or region of a display or window

See figure 1.

ITC STANDARD PREVIEW
 (standards.iteh.ai)
 SIST EN ISO 9241-12:2001
<https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5fc30f3b2d78/sist-en-iso-9241-12-2001>



Key

- 1 Identification area
- 2 Input/output area
- 3 Control area
- 4 Message area

Figure 1 — Possible layout of different areas

1) To be published.

3.1.1 identification area

area where the title of the displayed information is provided, which can include an indication of the user's current location and task

NOTE It may also identify an application, file, or working environment.

3.1.2 input/output area

area where information is received from users and/or presented to users

3.1.3 control area

area where control information and/or controls for interaction, command entry and command selection is provided

NOTE In some window applications there is no explicit control information, but controls such as buttons, sliders, check boxes, which are used to interact with the system, do appear.

3.1.4 message area

area where information such as status updates and/or other information (e.g. error messages, progress indication, feedback) is provided

NOTE Messages may originate in operating systems, applications, etc.

3.2 code

technique for representing information by a system of alphanumeric characters, graphical symbols or visual techniques (e.g. font, colour or highlighting)

NOTE 1 In general, alphanumeric codes are shorter than the full text needed to express the information content.

NOTE 2 The term "code" is not to be confused with the terms "code" or "coding" in the computer science context, in which these terms refer to the instructions contained in an executable software program and the process of writing the instructions that comprise a software program.

3.2.1 mnemonic code

code conveying information that is meaningful to the user and has some association with the words it represents

NOTE Mnemonic codes frequently consist of alphanumeric characters, making them easier to learn and recall. Many mnemonic codes are abbreviations.

3.3 controls

graphical object, often analogous to physical controls such as dials or radio buttons, which allows a user to navigate within an application, and manipulate displayed objects or their attributes

3.4 cursor

visual indication of the focus for alphanumeric input

3.5 field

delimited area where data are entered or presented, generally consisting of a fixed number of characters or blanks

3.5.1 entry field

field in which users can input data or edit displayed data

See figure 2.

3.5.2**read-only field**

field in which data are displayed which cannot be edited

See figure 2.

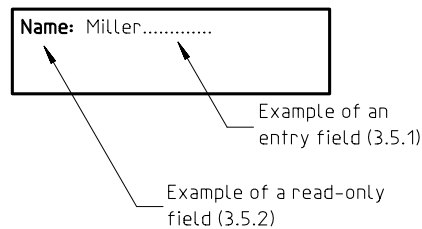


Figure 2 — Example of fields

3.6**group**

set of fields that has been made perceptually distinct on the display

3.7**highlighting**

display technique for emphasizing critical or important information and making it perceptually prominent

NOTE It may include image polarity reversal, blinking, underscoring, use of colour, contrast enhancement (i.e., brightness coding), addition of graphics (e.g. draw a box around) and size.

[SIST EN ISO 9241-12:2001](https://standards.iteh.ai/catalog/standards/sist/96d0f029-b0bb-4c91-b2a8-5f630f3b2d78/sist-en-iso-9241-12-2001)

3.8**icon**

graphical object on a visual display terminal that represents an object, action or a function

3.9**label**

short, descriptive title for an entry or read-only field, table, control or object

NOTE In some applications, labels are classified as protected fields. Labels include headings, field prompts, descriptive text (e.g. icon labels).

3.10**list**

horizontal or vertical presentation of "data" items in a display which usually changes according to the states of the application

3.11**marker**

symbol (e.g. * or ✓) that is used for indicating a status or drawing attention to an item

3.12**pointer**

graphical symbol that is moved on the screen according to manipulations of a pointing device

NOTE Users can interact with elements displayed on the screen by moving the pointer to that location and starting a manipulation.

3.13**table**

orderly displayed data, often as a number of lists arranged in parallel columns or rectangular arrays, related to each other following a specific rule

3.14**window**

independently controllable region on the display screen, used to present objects and/or conduct a dialogue with a user

NOTE A window is usually rectangular and delimited by a border.

See figure 3.

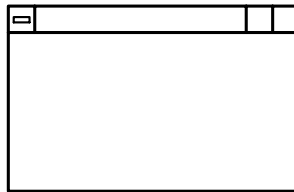


Figure 3 — Illustration of a window

3.14.1**primary window**

window that represents a view from an operating system, an application or an object

NOTE It is possible to have more than one primary window presented at the same time.

3.14.2**secondary window**

window arising out of user interaction with a primary window, and displayed in the course of a dialogue

NOTE A secondary window can also be a system-initiated window.

3.15**windowing format**

arrangement of multiple windows which are displayed simultaneously

NOTE There are several types of windowing formats such as tiled, overlapping, and mixed format.

3.15.1**tiled window format****side-by-side window format**

formats in which windows are placed side by side and do not overlap

See figure 4.

3.15.2**overlapping window format**

formats in which windows may partially or completely overlap each other

See figures 5 and 6.

3.15.3**mixed format**

formats in which tiled and overlapping formats are combined

NOTE The initial format may be tiled, but overlapping windows may be used to display transitory elements such as prompts and advisory messages. Alternatively, the initial format may be overlapping, but a window may be split into a set of tiled windows.

See figure 7.