

	<b>Ergonómia. Interakcia človek-systém. Časť 310: Viditeľnosť, estetika a ergonómia chýb pixelov (ISO/TR 9241-310: 2010).</b>	<b>TNI CEN ISO/TR 9241-310</b>  83 3580
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Ergonomics of human-system interaction - Part 310: Visibility, aesthetics and ergonomics of pixel defects (ISO/TR 9241-310:2010)

Táto technická normalizačná informácia obsahuje anglickú verziu CEN ISO/TR 9241-310:2015, ISO/TR 9241-310:2010.

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TECHNICAL REPORT

**CEN ISO/TR 9241-310**

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**Ergonomics of human-system interaction - Part 310:  
Visibility, aesthetics and ergonomics of pixel defects  
(ISO/TR 9241-310:2010)**

Ergonomie de l'interaction homme-système - Partie  
310: Visibilité, esthétique et ergonomie des défauts de  
pixel (ISO/TR 9241-310:2010)

This Technical Report was approved by CEN on 19 October 2015. It has been drawn up by the Technical Committee CEN/TC 122.

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## **European foreword**

This document (CEN ISO/TR 9241-310:2015) has been prepared by Technical Committee ISO/TC 159 “Ergonomics” in collaboration with Technical Committee CEN/TC 122 “Ergonomics” the secretariat of which is held by DIN.

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The text of ISO/TR 9241-310:2010 has been approved by CEN as CEN ISO/TR 9241-310:2015 without any modification.

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**Ergonomics of human-system  
interaction —**

Part 310:  
**Visibility, aesthetics and ergonomics of  
pixel defects**

*Ergonomie de l'interaction homme-système —*

*Partie 310: Visibilité, esthétique et ergonomie des défauts de pixel*



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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 9241-310 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 4: Keyboard requirements*
- *Part 5: Workstation layout and postural requirements*
- *Part 6: Guidance on the work environment*
- *Part 9: Requirements for non-keyboard input devices*
- *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*



ISO 9241 also consists of the following parts, under the general title *Ergonomics of human–system interaction*:

- *Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services*
- *Part 100: Introduction to standards related to software ergonomics [Technical Report]*
- *Part 110: Dialogue principles*
- *Part 129: Guidance on software individualization*
- *Part 151: Guidance on World Wide Web user interfaces*
- *Part 171: Guidance on software accessibility*
- *Part 210: Human-centred design for interactive systems*
- *Part 300: Introduction to electronic visual display requirements*
- *Part 302: Terminology for electronic visual displays*
- *Part 303: Requirements for electronic visual displays*
- *Part 304: User performance test methods for electronic visual displays*
- *Part 305: Optical laboratory test methods for electronic visual displays*
- *Part 306: Field assessment methods for electronic visual displays*
- *Part 307: Analysis and compliance test methods for electronic visual displays*
- *Part 308: Surface-conduction electron-emitter displays (SED) [Technical Report]*
- *Part 309: Organic light-emitting diode (OLED) displays [Technical Report]*
- *Part 310: Visibility, aesthetics and ergonomics of pixel defects [Technical Report]*
- *Part 400: Principles and requirements for physical input devices*
- *Part 410: Design criteria for physical input devices*
- *Part 420: Selection of physical input devices*
- *Part 910: Framework for tactile and haptic interaction*
- *Part 920: Guidance on tactile and haptic interactions*

The following parts are under preparation:

- *Part 143: Form-based dialogues*
- *Part 154: Design guidance for interactive voice response (IVR) applications*

Requirements, analysis and compliance test methods for the reduction of photosensitive seizures and evaluation methods for the design of physical input devices are to form the subject of a future part 411.

## Introduction

This part of ISO 9241 summarises information that ISO/TC 159/SC 4/WG 2, *Visual display requirements*, collected on pixel defects and their impact on aesthetics and ergonomics during preparation of ISO 13406 and other parts in the ISO 9241 “300” subseries. It uses terms and definitions from ISO 9241-302 and VESA FDPm<sup>[20]</sup>.

It is based on research and reports that were available at the end of year 2005. The annexes contain information upon which the Working Group could not reach consensus, as well as some additional information, collected during the year 2006, that did not undergo the same review and analysis process as the earlier material.

# Ergonomics of human-system interaction —

Part 310:

## Visibility, aesthetics and ergonomics of pixel defects

**IMPORTANT** — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

### 1 Scope

This part of ISO 9241 provides a summary of existing knowledge on ergonomics requirements for pixel defects in electronic displays at the time of its publication. It also gives guidance on the specification of pixel defects, visibility thresholds and aesthetic requirements for pixel defects. It does not itself give requirements related to pixel defects, but it is envisaged that its information could be used in the revision of other parts in the ISO 9241 series.

### 2 Terms and definitions

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**