

Ergonomics - General approach, principles and concepts (ISO 26800:2011)

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NATIONAL FOREWORD

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ICS 01.040.13, 13.180

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English Version

Ergonomics - General approach, principles and concepts (ISO
26800:2011)

Ergonomie - Approche générale, principes et concepts
(ISO 26800:2011)

Ergonomie - Genereller Ansatz, Prinzipien und Konzepte
(ISO 26800:2011)

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Foreword

This document (EN ISO 26800:2011) 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.

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of an identical text or by endorsement, at the latest by February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

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Endorsement notice

The text of ISO 26800:2011 has been approved by CEN as a EN ISO 26800:2011 without any modification.

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Introduction

Human, technological, economic, environmental and organizational factors all affect the behaviour, activities and well-being of people in work, domestic and leisure contexts. The science of ergonomics has evolved from its origins in the context of work to embrace many other fields of application, such as home and leisure. However, whatever the context, the underlying principles of ergonomics remain the same, although the relative emphasis placed on them will vary. These principles are fundamental to the design process wherever human involvement is expected, in order to ensure the optimum integration of human requirements and characteristics into a design. This International Standard considers systems, users, workers, tasks, activities, equipment and the environment as the basis for optimizing the match between them. These principles and concepts serve to improve safety, performance and usability (effectiveness, efficiency and satisfaction), while safeguarding and enhancing human health and well-being, and improving accessibility (e.g. for elderly persons and persons with disabilities).

Ergonomics covers a wide range of issues, including physical, cognitive, social and organizational. These are ideally addressed within an integrated framework. A substantial number of ergonomics standards have been developed to cover specific issues and different application domains. All depend upon the basic principles and concepts that are fundamental to the ergonomics approach to design. This International Standard has been developed in order to provide an integrated framework, bringing together the basic principles and concepts of ergonomics in one document, and thus providing a high-level view of the way in which ergonomics is applied.

NOTE 1 ISO 6385^[2] remains a high-level International Standard for work systems.

NOTE 2 A complete list of current published ergonomics International Standards can be accessed via http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=53348&published=on&includesc=true.

Ergonomics — General approach, principles and concepts

1 Scope

This International Standard presents the general ergonomics approach and specifies basic ergonomics principles and concepts. These are applicable to the design and evaluation of tasks, jobs, products, tools, equipment, systems, organizations, services, facilities and environments, in order to make them compatible with the characteristics, the needs and values, and the abilities and limitations of people.

The provisions and guidance given by this International Standard are intended to improve the safety, performance, effectiveness, efficiency, reliability, availability and maintainability of the design outcome throughout its life cycle, while safeguarding and enhancing the health, well-being and satisfaction of those involved or affected.

The intended users of this International Standard are designers, ergonomists and project managers, as well as managers, workers, consumers (or their representatives) and procurers. It also serves as a reference standard for standards developers dealing with ergonomics aspects.

This International Standard provides the basis for other, more detailed, context-specific ergonomics International Standards.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

accessibility

extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use

NOTE 1 Context of use includes direct use or use supported by assistive technologies.

NOTE 2 Adapted from ISO/TR 22411:2008, definition 3.6.

2.2

ergonomics

human factors

scientific discipline concerned with the understanding of interactions among human and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance

NOTE This definition is consistent with that given by the International Ergonomics Association^[21].

2.3

environment

physical, chemical, biological, organizational, social and cultural factors surrounding one or more persons