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Ergonomic principles related to mental workload - Part
1: General issues and concepts, terms and definitions
(ISO 10075-1:2017)

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ICS 01.040.13, 13.180

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EUROPEAN STANDARD

EN ISO 10075-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

**Ergonomic principles related to mental workload - Part 1:
General issues and concepts, terms and definitions (ISO
10075-1:2017)**

Principes ergonomiques concernant la charge de
travail mental - Partie 1: Questions et concepts
généraux, termes et définitions (ISO 10075-1:2017)

Ergonomische Grundlagen bezüglich psychischer
Arbeitsbelastung - Allgemeine Aspekte und Konzepte
und Begriffe (ISO 10075-1:2017)

This European Standard was approved by CEN on 29 June 2017.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN ISO 10075-1:2017) 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of an identical text or by endorsement, at the latest by April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 10075-1:2000.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 10075-1:2017 has been approved by CEN as EN ISO 10075-1:2017 without any modification.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 1, *General ergonomics principles*.

This first edition of ISO 10075-1, together with ISO 10075-2 and ISO 10075-3, cancels and replaces ISO 10075:1991, which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Clause 1](#) has been adjusted;
- [Clause 2](#) and the terms [3.1.2](#), [3.2.1.2](#), [3.2.1.3](#), [3.2.2.1](#), [3.2.3.2](#), [3.2.3.2.1](#), [3.2.3.2.2](#) and [3.2.3.3](#) have been technically revised;
- the term [3.2.4.1](#) has been added;
- the term [3.2.3.2.3](#) has been corrected;
- [Table A.1](#) has been updated;
- a linkage between ISO 10075-1 and ISO 6385 has been highlighted where applicable;
- [Clause 3](#) has been restructured.

A list of all parts in the ISO 10075 series can be found on the ISO website.

Introduction

This document represents an extension of ISO 6385, with special respect to mental workload, describing general issues, concepts and terms in more detail because of the specific consequences that have to be taken into account in this domain.

These concepts from the field of mental workload include mental stress, mental strain and their effects.

Since there is a variety of different conceptions concerning mental workload, mental stress and mental strain, both in colloquial as well as in scientific usage, a standardization of the relevant concepts and terms in the field of ergonomics is required.

In this document, mental workload is considered as an umbrella term encompassing mental stress and mental strain. Mental stress is considered as a neutral term rather than the negative outcome from workload and other factors adopted in other approaches. In this way, it reflects a parallel with the engineering use of the terms stress and strain. Thus, mental stress refers to the causes of mental strain, and mental strain refers to the effects of that stress in the individual. This is consistent with the use of the terms in other ergonomics standards, e.g. on thermal stress (see ISO 7933).

Ergonomic principles related to mental workload —

Part 1: General issues and concepts, terms and definitions

1 Scope

This document defines terms in the field of mental workload, covering mental stress and mental strain, and short- and long-term, positive and negative consequences of mental strain. It also specifies the relations between these concepts involved.

In this document, *mental workload* is regarded as an umbrella or generic term, referring to all the concepts and constructs mentioned in the document and does not have a specified or standardized meaning of its own within the document. This is consistent with the use of the term in ergonomics and its applications, where it can refer to mental stress, mental strain and their effects, i.e. both to the causes and the effects. In this document, the term mental workload will thus not be treated as a technical term but only as a reference to the domain of mental workload.

NOTE [Annex A](#) gives additional explanations of terms and concepts.

This document applies to the design of working conditions with respect to mental workload and is intended to promote a common usage of terminology between experts and practitioners in the field of ergonomics as well as in general.

This document does not address methods of measurement and principles of task design, which are dealt with in ISO 10075-2 and ISO 10075-3.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>