



**SLOVENSKI STANDARD**  
**SIST EN ISO 15535:2007**

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General requirements for establishing anthropometric databases (ISO 15535:2006)

Allgemeine Anforderungen an die Einrichtung anthropometrischer Datenbanken (ISO 15535:2006)

Exigences générales pour la création de bases de données anthropométriques (ISO 15535:2006)

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English Version

General requirements for establishing anthropometric databases  
(ISO 15535:2006)

Exigences générales pour la création de bases de données  
anthropométriques (ISO 15535:2006)

Allgemeine Anforderungen an die Einrichtung  
anthropometrischer Datenbanken (ISO 15535:2006)

This European Standard was approved by CEN on 13 November 2006.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Foreword

This document (EN ISO 15535:2006) 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of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

This document supersedes EN ISO 15535:2003.

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

### Endorsement notice

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## General requirements for establishing anthropometric databases

*Exigences générales pour la création de bases de données  
anthropométriques*

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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.

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 15535 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 3, *Anthropometry and biomechanics*.

This second edition cancels and replaces the first edition (ISO 15535:2003), Clauses 1 and 2, subclauses 3.1, 3.5, 4.3.1, 5.1, 5.5, 7.1.7 and 7.2, Annexes B and C, and Table C.1 of which have been technically revised.

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## Introduction

The well-being of people is very much dependent on their proportional and geometric relationship with several factors, such as growth, design principles for clothing, transportation, workplace and homes, as well as sporting and recreational activities. Implementation of databases on body dimensions of a population supports essential health and safety requirements, as well as International Standards in the field of machinery safety and personal protective equipment, and has acquired importance in the devising of computer-generated manikins of the human body.

One of the major difficulties in formulating international databases on anthropometry is that the numerous existing studies of peoples are rarely comparable in the strictest sense. Difficulties arise in comparing one study with another because either the methods used differ or they are not sufficiently well described. The anthropometric standards used for the data collection are fundamental to setting up any anthropometric databases.

This International Standard is intended to be used in close conjunction with ISO 7250. The ultimate goal is that a database developed by one researcher could be easily used by other researchers. This would be in a form that is readily accessible by those responsible for developing standards in support of good design and health and safety requirements (e.g. ISO 15534 and ISO 14738). To achieve this goal, it has been necessary to develop an appropriate International Standard to ensure that anthropometric databases and their associated reports are internationally compatible.

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# General requirements for establishing anthropometric databases

## 1 Scope

This International Standard specifies general requirements for anthropometric databases and their associated reports that contain measurements taken in accordance with ISO 7250.

It provides necessary information, such as characteristics of the user population, sampling methods, measurement items and statistics, to make international comparison possible among various population segments. The population segments specified in this International Standard are people who are able to hold the postures specified in ISO 7250.

**NOTE** The traditional anthropometry defined in ISO 7250 is considered to be a necessary complement to 3-D methods which are being developed in some countries. It is important that scanned data are verified according to the definitions given in ISO 7250 (see ISO 20685). State-of-the-art software allows integration of traditional anthropometric measures with those obtained by 3-D imaging.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO 7250:1996, *Basic human body measurements for technological design*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO/IEC 8859-1:1998, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

## 3 Terms and definitions

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

### 3.1

#### **population segment**

group of people having one or more common background characteristics that influence their anthropometric distributions

### 3.2

#### **user population**

population segment or segments for whom a technological design is intended

**3.3 random sample**  
sample established by following a set of procedures to ensure that each and every individual in the population has an equal chance of being selected

**3.4 stratified sample**  
sample established by a procedure in which the population is divided into sub-populations (strata), each one of which contributes with a specified number of randomly selected individuals

**3.5 demographic data**  
background information (such as sex, dwelling or working place, occupation, education) used to describe members of the user population and/or population segments

**3.6 anthropometry**  
study and measurement of the physical dimensions and mass of the human body and its constituent (external) parts

NOTE Taken from the Greek word *anthropos* (human being or Man) and *metron*, to measure.

**3.7 anthropometric data**  
dimensional measurements (such as heights, lengths, depths, breadths and circumferences) of the human body and its component parts

**3.8 anthropometric database**  
collection of individual body measurements (anthropometric data) and background information (demographic data) recorded on a group of people (the sample)

**3.9 anthropometric report**  
technical report describing the origin, contents, methods, and statistical characteristics of an anthropometric database

## 4 Data collection design

### 4.1 General

The following methods shall be used in assembling internationally compatible anthropometric databases.

### 4.2 Definitions, techniques and conditions of measurement

**4.2.1** The measuring methods given in ISO 7250 shall be used. Any deviation from this shall be indicated in the anthropometric report. It is anticipated that items other than those specified by ISO 7250 will be measured according to the purpose of the investigation. In such cases, definitions, methods, instruments and measurement units shall be clearly indicated in the report.

**4.2.2** When a measurement can be taken on both the left and right sides of the human body, the report shall clearly indicate on which side the measurement has been taken.

**4.2.3** Photographs or detailed sketches of the measurements taken should be provided and the measurement procedures should be documented.