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## General requirements for establishing anthropometric databases

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



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Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
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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.

## 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