

Principles for selecting and using test persons for testing anthropometric aspects of industrial products and designs

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15537:2005 sisaldab Euroopa standardi EN ISO 15537:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.01.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 15537:2005 consists of the English text of the European standard EN ISO 15537:2004.</p> <p>This document is endorsed on 25.01.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This International Standard establishes the methods for determining the composition of groups of persons whose anthropometric characteristics are to be representative for the intended user population of any specific object under test</p>	<p>Scope: This International Standard establishes the methods for determining the composition of groups of persons whose anthropometric characteristics are to be representative for the intended user population of any specific object under test</p>
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ICS 13.180

Võtmesõnad: dimensions, ergonomics, european, human body, human factors engineering, industrial products, operating stations, people, production, products, properties, selection, testing, testing personnel, universal, work place layout, working places

ICS 13.110; 13.180

English version

**Principles for selecting and using test persons for
testing anthropometric aspects of industrial
products and designs**

(ISO 15537:2004)

Principes de choix et d'utilisation de
sujets d'essai pour l'essai des aspects
anthropométriques des produits indus-
triels et leur conception
(ISO 15537:2004)

Grundsätze für die Auswahl und den
Einsatz von Prüfpersonen zur Prüfung
anthropometrischer Aspekte von
Industrieerzeugnissen und deren
Gestaltung (ISO 15537:2004)

This European Standard was approved by CEN on 2004-11-14.

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 Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

Foreword

International Standard

ISO 15537:2004 Principles for selecting and using test persons for testing anthropometric aspects of industrial products and designs,

which was prepared by ISO/TC 159 'Ergonomics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 122 'Ergonomics', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by May 2005 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

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

Endorsement notice

The text of the International Standard ISO 15537:2004 was approved by CEN as a European Standard without any modification.

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Introduction

An investigation into how far ergonomic requirements are taken into consideration with regard to industrial products and designs is often performed using test equipment, giving possibilities to register only one parameter (for example only the body height) or perhaps a few parameters. With regard to the concurrent multifunctional testing and/or determination of product characteristics for which no technical testing procedures have been laid down, one or several persons are often designated as test persons and are observed and/or questioned while or after using the product under test.

The reliability of any findings established in this way is very much dependent on the extent to which the test persons represent the intended user group in different aspects. How well a product or design is adjusted to the anthropometrics of the intended user population is dealt with in this International Standard.

According to EN 614-1, work equipment, e.g. machinery, has to be designed with proper regard to the body dimensions of the intended user population. One means to verify that a product or a design fulfils this requirement is to set up a panel of test persons and let them test the product in different ways.

An example of the use of this International Standard is given in Annex A (informative).

1 Scope

This International Standard establishes methods for determining the composition of groups of persons whose anthropometric characteristics are to be representative of the intended user population of any specific object under test.

This International Standard is applicable to the testing of anthropometric aspects of industrial products and designs having direct contact with the human body or dependent on human body measurements, e.g. machinery, work equipment, personal protective equipment (PPE), consumer goods, working spaces, architectural details or transportation equipment.

This International Standard is also applicable to the testing of such safety aspects of products that are dependent on human body measurements. It does not deal with other aspects of the task or other requirements, such as perception of information (except geometrical arrangement of the viewing targets) and the use of controls (except their geometrical placement).

Although this International Standard deals with selecting test persons from an anthropometric perspective, similar general principles could be applied for other test variables, e.g. biomechanical aspects.

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

ISO 15534-3:2000, *Ergonomic design for the safety of machinery — Part 3: Anthropometric data*

3 Terms and definitions

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

3.1

critical dimension of a product to be tested

dimension estimated to cause a major limitation for the usage from an anthropometrical point of view, for the whole body or body parts, depending on the function of the product in question

NOTE 1 Critical dimension is related to reach, clearance, posture, contact pressure or other factors which may result in difficulties of use, discomfort or health risks.

NOTE 2 A product to be tested can have more than one critical dimension, for example, a combination of a reach- and a clearance-dimension.

EXAMPLE The critical dimension for an access opening could be the width, or a combination of two dimensions, for example the width and the opening height.