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Ergonomic design for the safety of machinery —

Part 3: Anthropometric data

Conception ergonomique pour la sécurité des machines —

Partie 3: 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 3.

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 part of ISO 15534 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15534-3 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 3, *Anthropometry and biomechanics*.

ISO 15534 consists of the following parts, under the general title *Ergonomic design for the safety of machinery* :

— *Part 1: Principles for determining the dimensions required for openings for whole-body access into machinery*

— *Part 2: Principles for determining the dimensions required for access openings*

— *Part 3: Anthropometric data*

Introduction

This part of ISO 15534 is one of several ergonomics standards for the safety of machinery. EN 614-1:1995, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*, describes the principles designers should adopt in order to take account of ergonomic factors.

This part of ISO 15534 is based on EN 547-3:1996 that was prepared as a harmonized standard conforming with the Machinery Directive and associated European Free Trade Association (EFTA) regulations.

Ergonomic design for the safety of machinery —

Part 3: Anthropometric data

1 Scope

This part of ISO 15534 specifies current requirements for human body measurements (anthropometric data) that are required by ISO 15534-1 and ISO 15534-2 for the calculation of access-opening dimensions as applied to machinery.

The anthropometric data originate from static measurements of nude persons and do not take into account body movements, clothing, equipment, machinery-operating conditions or environmental conditions.

The data are based on information from anthropometric surveys representative of population groups within Europe comprising at least three million people. Both men and women are taken into account.

Measurements are given, as required by ISO 15534-1 and ISO 15534-2, for the 5th, 95th and 99th percentiles of the relevant population group within Europe.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15534. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15534 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 15534-1:2000, *Ergonomic design for the safety of machinery — Part 1: Principles for determining the dimensions required for openings for whole-body access into machinery*.

ISO 15534-2:2000, *Ergonomic design for the safety of machinery — Part 2: Principles for determining the dimensions required for access openings*.

ISO 7250:1996, *Basic human body measurements for technological design*. (EN ISO 7250:1997)

3 General requirements

Anthropometric measurements form the basis upon which minimum dimensions of access openings can be calculated. Where machinery requires access openings, the provisions of ISO 15534-1 (for whole body access) and ISO 15534-2 (for access of parts of the body) shall be complied with.

Table 1 gives the human body measurements necessary to calculate the size of access openings taking account of the known range of body sizes within Europe.