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**Basic human body measurements for technological design
(English Translation)**

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives

for Standardization - Part 1. Rules for the Structure and Drafting of Standardizing Documents.

This document serves as a replacement of GB/T 5703-2010 Basic Human Body Measurements

for Technological Design. In comparison with GB/T 5703-2010, apart from structural adjustments and editorial modifications, the main technical changes are as follows.

---"longitudinal axis of the foot" is added and "styloid process" is deleted from "Terms and Definitions", and the terms of ten bony landmark points, including "acromion" are moved to Chapter 5 "Landmarks" (see Chapter 3 and Chapter 5; Chapter 2 of Version 2010);

---The requirements for body posture are added to "measuring conditions" (see 4.1);

---The Chapter "Landmarks" is added, which provides general requirements for landmarks, as well as definitions and corresponding position diagrams of 21 landmarks (see Chapter 5);

---The form of the schematic diagrams of anthropometric measurements is modified (see Chapter 6; Chapter 4 of Version 2010);

---Six basic anthropometric measurements "thumb length", "thumb breadth", "hand thickness", "hand breadth including thumb", "arm circumference flexed" and "forearm circumference flexed" are added (see 6.3).

This document modifies and adopts ISO 7250-1:2017 Basic Human Body Measurements for

Technological Design - Part 1: Body Measurement Definitions and Landmarks.

This document makes the following editorial modifications.

---The title of the Standard is modified from "Basic Human Body Measurements for Technological Design - Part 1: Body Measurement Definitions and Landmarks" into "Basic Human Body Measurements for Technological Design";

---Appendix A (informative) "Correspondence between ISO 7250-1 Dimension Names and Numbers and ISO 14738 and ISO 15534 Anthropometric Dimension Codes" of ISO 7250-1:2017 is deleted.

---Appendix A (informative) "Recommended Anthropometric Terminology" is added.

Please be noted that certain content of this document may involve patents. The institution issuing this document does not undertake the responsibility of identifying these patents.

This document was proposed by and shall be under the jurisdiction of National Technical Committee 7 on Ergonomics of Standardization Administration of China (SAC/TC 7).

The drafting organizations of this document: China National Institute of Standardization; Air Force Medical Center, PLA; Chemical Defense Research Institute of Academy of Military Sciences, PLA; Donghua University; Beijing Union University; Northeast Normal University.

1 Scope

This document provides a description of anthropometric measurements which can be used as a

basis for comparison of population groups and for the creation of anthropometric databases (see

GB/T 22187).

The basic list of measurements specified in this document is intended to serve as a guide for

ergonomists who are required to define population groups and apply their knowledge to the geometric design of the places where people work and live.

2 Normative References

This document does not have normative references.

3 Terms and Definitions

The following terms and definitions are applicable to this document.

imagined center line of the foot, connecting a point between the ankle bones, and the tip of the

second toe

pertaining to the long bones of the hand between the carpals (wrist bones) and the phalanges

pertaining to the anteroposterior (front to back) median plane of the body (midsagittal), or to a

referring to the long bone in the forearm on the little finger side

4 Measuring Conditions and Instruments

A cube, 200 mm on each side, is used for determining the maximal posterior protrusion of a seated person.

A standard rod, 20 mm in diameter, and approximately 10 cm in length, is used for determining

grip measurements.

Chest and other measurements affected by breathing should be taken during gentle breathing.

5 Landmarks

Most lateral point of the lateral edge of the spine (acromial process) of the scapula, projected

vertically to the surface of the skin. See Figure 1.

Tip of the prominent bone at the base of the back of the neck (spinous process of the seventh

cervical vertebra) in the midsagittal plane and projected posteriorly to the surface of the skin

while the head is held in the Frankfurt plane.