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**Office furniture — Office chairs —  
Methods for the determination of  
dimensions**

*Mobilier de bureau — Sièges de travail pour bureau — Méthodes  
pour déterminer les dimensions*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). (standards.iteh.ai)

This first edition cancels and replaces ISO/TR 24496:2012, which has been technically revised.

The committee responsible for this document is ISO/TC 136, Furniture.  
ISO 24496:2017  
https://www.iso.org/standard/68333b6fd9c3b/iso-24496-2017

## Introduction

The test methods in this document are based on the manner in which anthropometric measurements are measured.

Therefore, in order to be able to relate the dimensions of office seating to the anthropometric dimensions, a theoretical reference seating posture has been adopted. This posture does, however, not automatically correspond to the ideal or optimum seating posture.

The reference seating posture is as follows:

- the sole of the foot placed on the floor;
- the foot forms an angle of approximately 90° with the lower leg;
- the lower leg is approximately vertical;
- the lower leg forms an angle of approximately 90° with the thigh;
- the thigh is almost horizontal;
- the thigh forms an angle of approximately 90° with the trunk;
- the trunk is erect.

Further information on the anthropometric dimensions can be found in ISO 7250-1, ISO 20685 and ISO 14738.

This document is meant to be used in conjunction with requirements documents. Such documents will specify which of the dimensions are to be measured. It is possible that not all of the measurements that can be taken by this document will be specified by the individual requirements document.

For the background and rationale for the provisions contained in this document, see [Annex C](https://standards.iteh.ai/catalog/standards/sist/6fbb6fe0-af0c-4ec7-8c26-883564d9c5b/iso-24496-2017).

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# Office furniture — Office chairs — Methods for the determination of dimensions

## 1 Scope

This document specifies methods for the determination of the dimensions of office chairs.

This document does not contain dimensional specifications or requirements.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

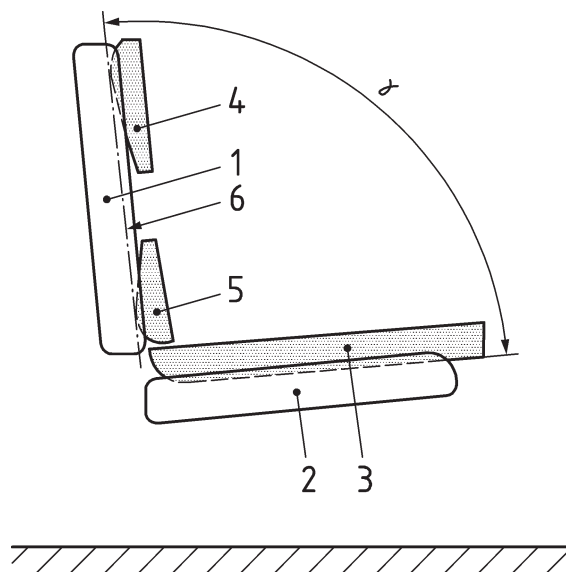
- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

NOTE For the anthropometric equivalents of the terms and definitions, see [Annex B](#).

**3.1 angle between backrest and seat** <https://standards.iteh.ai/catalog/standards/sist/6fbb6fe0-af0c-4ec7-8c26-8833b6fd9c3b/iso-24496-2017>

$\gamma$   
angle between the loaded backrest and the loaded seat

Note 1 to entry: See [Figure 1](#).



**Key**

- 1 backrest
- 2 seat
- 3 CMD (Chair Measurement Device) buttocks pad
- 4 CMD thoracic pad
- 5 CMD pelvic pad
- 6 backrest line
- $\gamma$  angle between backrest and seat

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**Figure 1 — Angle between backrest and seat**  
https://standards.iteh.ai/catalog/standards/sist/c7-8c26-8833b6fd9c3b/iso-24496-2017

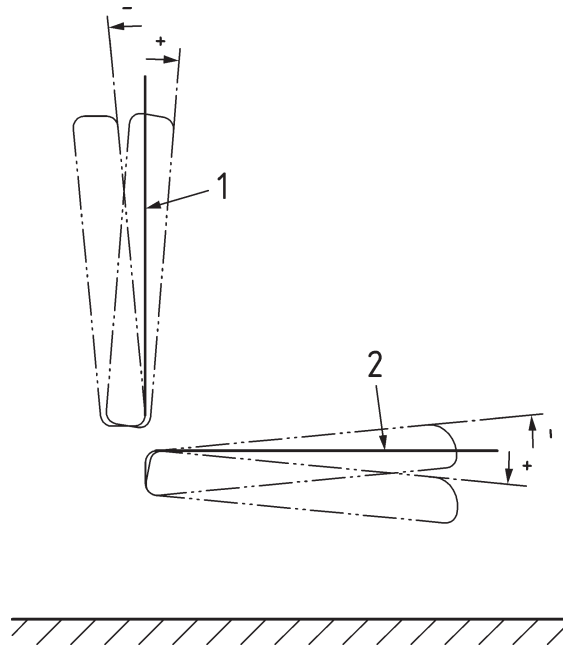
**3.2**

**angle – origin and sign convention**

right horizontal viewed from the right side of the chair; when the user is seated in the chair and the angle sign convention is clockwise, angle rotation is positive (+) and counterclockwise is negative (-)

Note 1 to entry: See [Figure 2](#).





**Key**

- 1 vertical
- 2 horizontal (0°)

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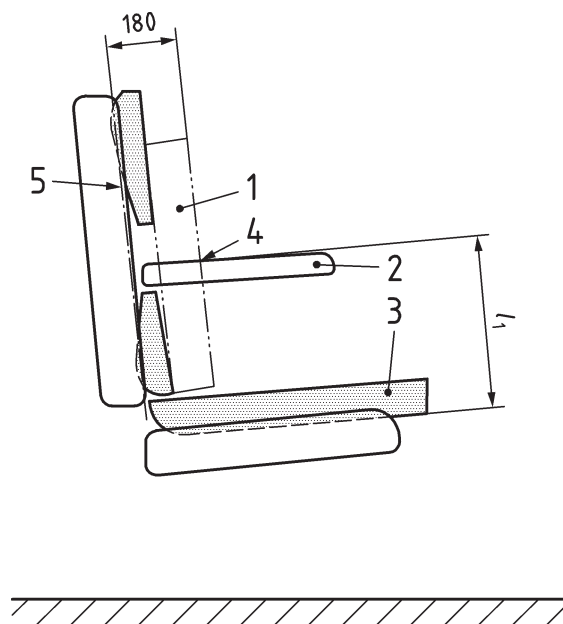
**Figure 2 — Angle - origin and sign convention**  
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**3.3 armrest height**

distance from the top surface of the armrest to the bottom of the loaded CMD buttocks pad parallel to the backrest line at a distance of 180 mm from the backrest line

Note 1 to entry: See [Figure 3](#).

Dimensions in millimetres



**Key**

- 1 CMD vertical member
- 2 armrest
- 3 CMD buttocks pad
- 4 intersection of projection of vertical member front face and armrest
- 5 backrest line
- $l_1$  armrest height

**Figure 3 — Armrest height**

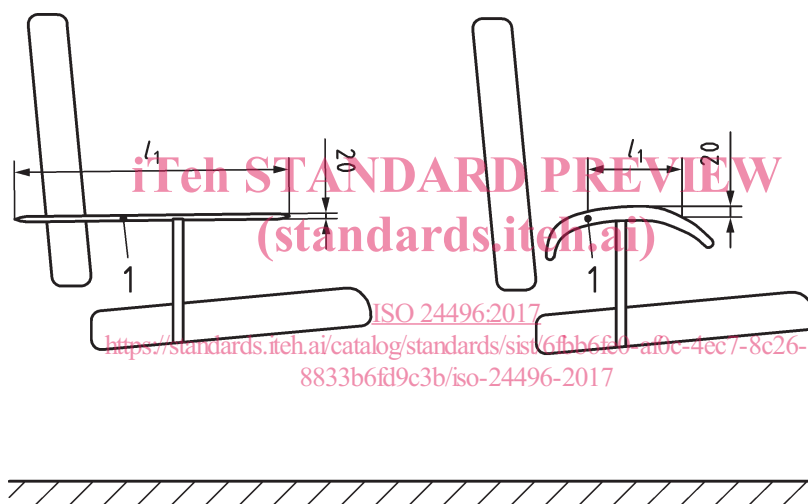
**3.4**

**armrest length**

distance along the armrest within an envelope down from the top of the armrest that is 20 mm deep

Note 1 to entry: See [Figure 4](#).

Dimensions in millimetres



**Key**

- 1 armrest
- $l_1$  armrest length

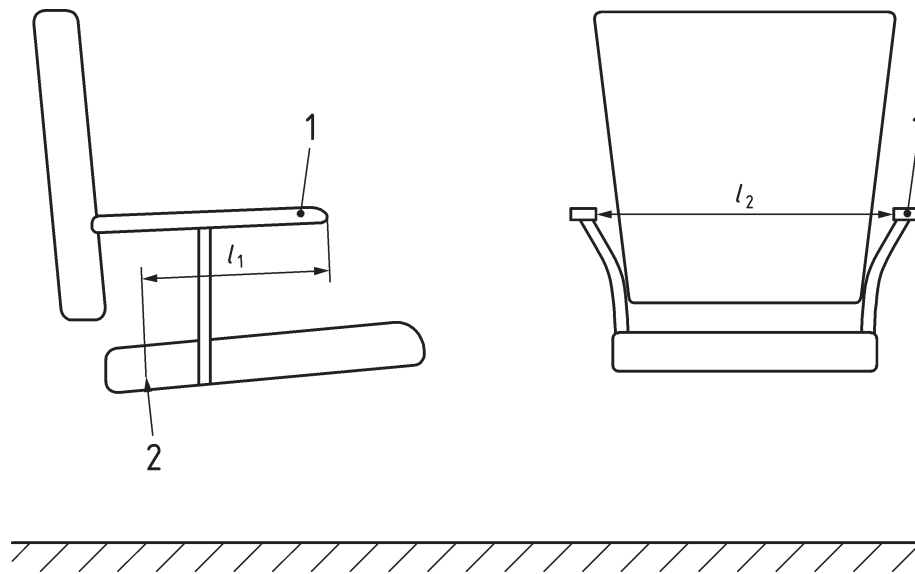
**Figure 4 — Armrest length**

**3.5**

**distance between armrests**

horizontal distance between armrests from the rear of the seat surface width zone forward to the front edge of the seat within the measurement zone 5 mm down from the top of the armrest

Note 1 to entry: See [Figure 5](#), [Figure 7](#) and [3.28](#).

**Key**

- 1 armrest
- 2 rear of seat width zone
- $l_1$  armrest pad measurement zone
- $l_2$  distance between armrests

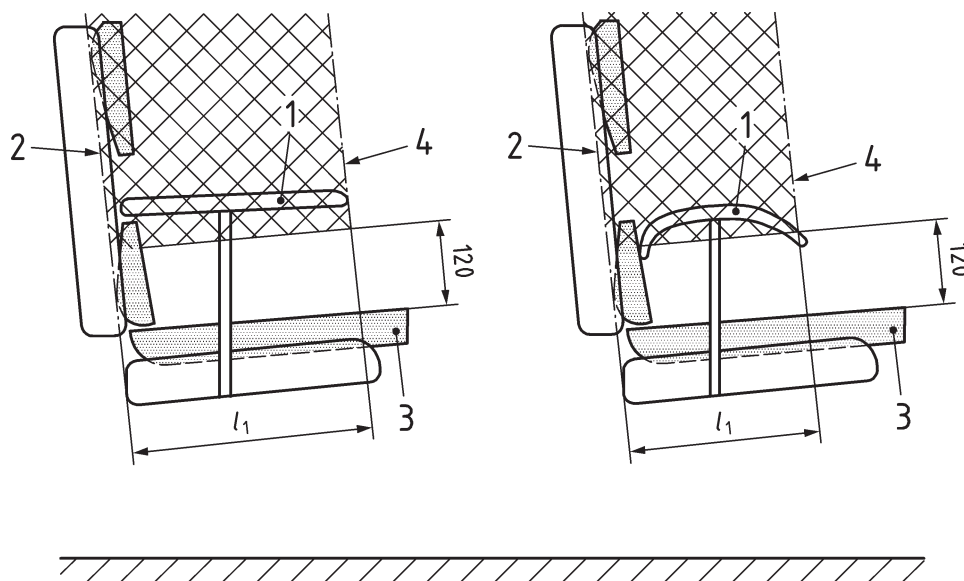
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**Figure 5 — Distance between armrests**  
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**3.6****front of armrest position**

perpendicular distance from the backrest line to the front of the armrest that is in the measurement zone 120 mm and greater above the top surface of the loaded CMD buttocks pad

Note 1 to entry: See [Figure 6](#).

Dimensions in millimetres



**Key**

- 1 armrest
- 2 backrest line
- 3 CMD buttocks pad
- 4 measurement zone
- $l_1$  front of armrest position

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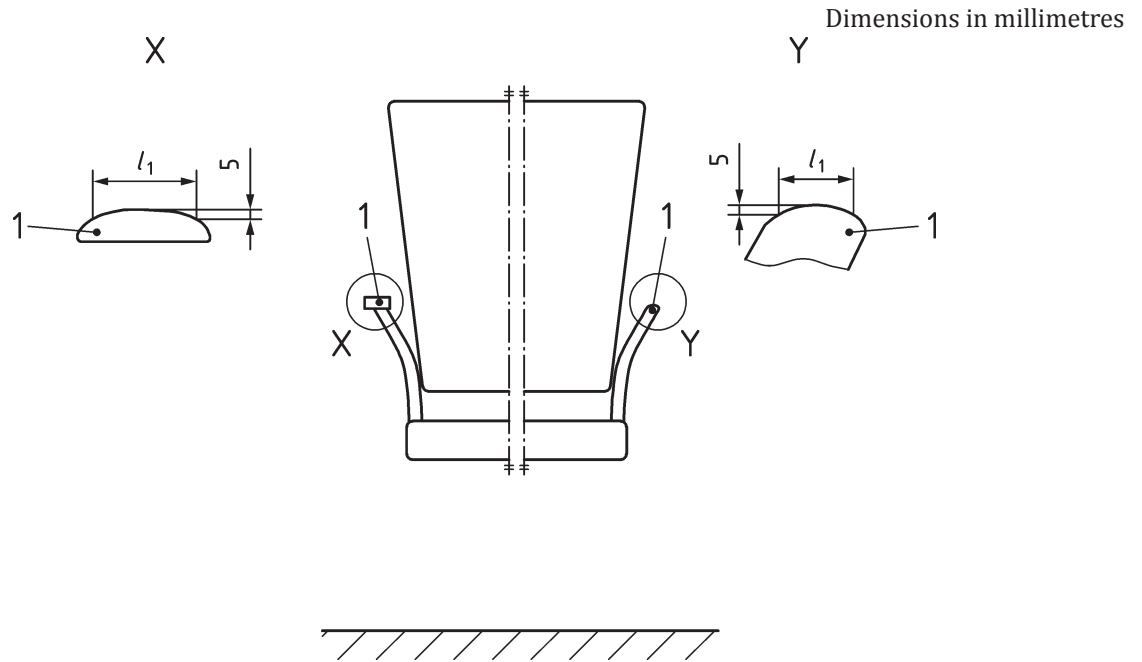
ISO 24496:2017

**Figure 6 — Front of armrest position**  
<https://standards.iteh.ai/catalog/standards/iso-24496-2017/8833b6fd9c3b/iso-24496-2017>

**3.7**  
**armrest width**

horizontal distance across the armrest within the measurement zone 5 mm down from the top of the armrest

Note 1 to entry: See [Figure 7](#).



**Key**

- 1 armrest
- $l_1$  armrest width

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Figure 7 — Armrest width

**3.8**

**backrest to seat movement ratio**

ratio of change of the backrest angle relative to the change of angle of the seat that occurs when a seat and backrest move concurrently

Note 1 to entry: Does not apply to chairs with seat and/or back angles that only move independently.

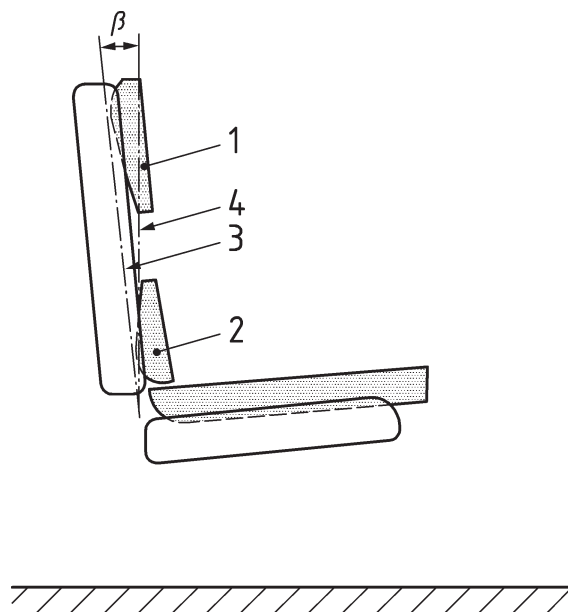
**3.9**

**backrest angle to vertical**

$\beta$

angle between vertical and the loaded backrest

Note 1 to entry: See [Figure 8](#).



**Key**

- 1 CMD thoracic pad
- 2 CMD pelvic pad
- 3 backrest line
- 4 vertical
- $\beta$  backrest angle to vertical

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**Figure 8 — Backrest angle to vertical**

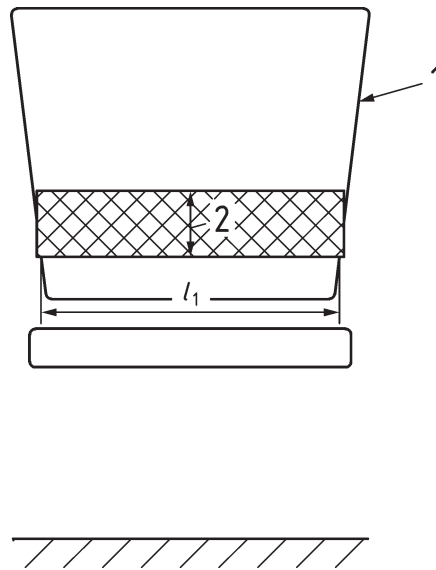
<https://standards.iteh.ai/catalog/standards/sist/6fbb6fe0-af0c-4ec7-8c26-8833b6fd9c3b/iso-24496-2017>

**3.10**

**backrest width**

smallest horizontal dimension of the backrest within the lumbar zone

Note 1 to entry: See [Figure 9](#) and [3.18](#).



**Key**

- 1 backrest
- 2 lumbar zone
- $l_1$  backrest width

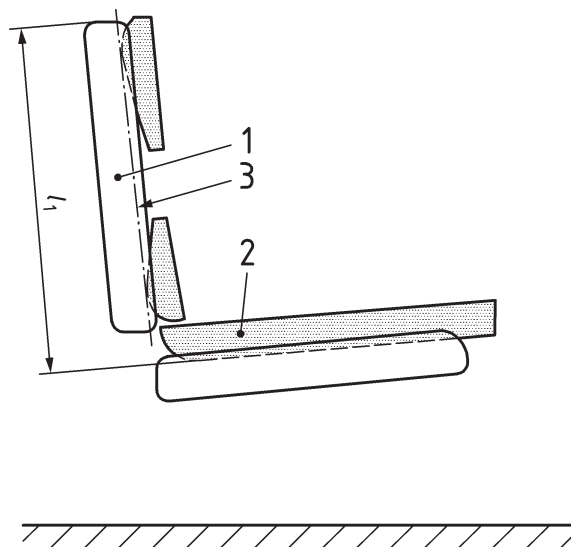
**Figure 9 — Backrest width**  
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**3.11**

**backrest height**

distance from the loaded seat to the top of the backrest, measured parallel to the backrest line

Note 1 to entry: See [Figure 10](#).



**Key**

- 1 backrest
- 2 CMD buttocks pad
- 3 backrest line
- $l_1$  backrest height

**Figure 10 — Backrest height**