

Furniture — Office Chairs with swivels — Specification

KENYABUREAU OF STANDARDS (KEBS)

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Furniture — Office Chairs with swivels — Specification

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Foreword

Kenya Bureau of Standards is a national standard body (NSB). The work of preparing Kenya Standards is normally carried out through national 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. National organizations, governmental and non-governmental, in liaison with KEBS, also take part in the work.

Kenya Standards are drafted in accordance with the rules given in the KS ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare National Standards. Draft Kenya Standards adopted by the technical committees are circulated to the technical committee members for balloting. Publication as a Kenya Standard requires approval by at least 2/3 of the members casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. KEBS shall not be held responsible for identifying any or all such patent rights.

This Kenya Standard was prepared by Technical Committee KEBS/TC 167, *Furnitures*.

This Kenya standard prescribes requirements and methods of tests for office chairs with swivels. This second edition cancels and replaces the first edition (KS 1820:2018), which has been technically revised with the following changes:

- Dimensions in table 1 were revised with maximum values being deleted in line with the current manufacturing practices and latest National anthropometric data.
- Editorial errors in clause 7.1 and 7.2 was corrected accordingly,
- Clause 7.2 was reorganized so that markings are removed from the chairs to chair packaging materials
- Clause 5.2 on wooden materials was changed to base materials to include the non-wooden materials such as metals, plastics, etc.

During the preparation of this standard, reference was made to the following documents:

IS 3663: 1993: Dimensions of tables and Chairs for office purposes

The assistance derived from these publications is hereby acknowledged.

Chairs for office purposes - Specification

1 Scope

This draft Kenya prescribes requirements and methods of tests for office chairs.

2 Application

This standard shall apply to office chairs including secretarial rotatory chairs, executive high back chairs and office table chairs.

3 Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of DKS 1820. 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 DKS 1820 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. KEBS maintain registers of currently valid International Standards.

IS 3663: 1993: Dimensions of tables and Chairs for office purposes

KS 893-1:1991, Specification for woven and knitted fabrics for upholstery

KS ISO 16131:2012 Leather – Upholstery leather characteristics – Selection of leather for furniture

KS ISO 7617-1:1994, Plastics-coated fabrics for upholstery – Part 1: Specification for PVC-coated knitted fabrics

KS ISO 7617-2:2003, Plastic-coated fabrics for upholstery, Part 2: Specification of PVC-Coated woven fabrics

KS ISO 7617:1988, Plastics-coated fabrics for upholstery – Part 3: Specification for polyurethane-coated woven fabrics

KS ISO 7174-1:1988 Furniture – Chairs – Determination of stability – Part 1: Upright chairs and stools

KS 376: 1999: Flexible Polyurethane foams — Specification

4 Definitions

For the purpose of this standard, the following definitions shall apply.

4.1 Office chair (see Fig. 1 and 2)

4.1.1 Seat

4.1.1.1 Seat height

Seat height *A* of the chair means the distance between the highest point on the line joining the middle point of the front and back of seat of chair and the floor surface. In the case of cushioned seats or seats with springs the height shall be measured after applying a uniform load of 600 N on the entire surface of the seat.

4.1.1.2 Seat depth

The depth *B* of the chair means the dimensions measured from front to back across the chair in the middle of the seat.

4.1.1.3 Seat width

The width C of the chair means the dimension measured from side to side on a line parallel to the front of the chair, and at the middle of seat.

4.1.2 Armrest

4.1.2.1 Height G

The height G is the vertical distance measured from point Z to the flat part of the armrest.

4.1.2.2 Inside dimension G_1

The inside dimension G_1 is the horizontal distance between armrests measured at the height of the flat part of the armrest.

4.1.2.3 Length G_2

Length G_2 is the length from the end of the armrest in relation to the front of the seat

4.1.2.4 Length G_3

The length G_3 is the horizontal distance between the front and back of the flat part of the armrest.

4.1.2.5 Width G_4

The width G_4 is the horizontal distance between the edges of the flat part of the armrest.

4.2 Office chair (see Fig. 1 and 2)

Adjustable revolving chair.

4.2.1 Seat

4.2.1.1 Seat height A

The height A of a chair seat is the height of the highest point of the front edge of the seat measured from the floor on the centre line of seat width C .

4.2.1.2 Effective seat depth B

The effective depth B of the seat is the horizontal distance measured on the centre line of seat width C from the front edge to the vertical projection of the point X of the chair back on the centre line. If the back is adjustable, B is measured with the back adjusted to its mid height.

4.2.1.3 Seat pad depth B_1

The depth B_1 of the seat pad is the horizontal distance measured on the centre line of seat width C between the vertical projections of the front and back seat edges.

4.2.1.4 Seat width C

The width C of the seat is the horizontal distance between the upper edges of the chair sides, measured perpendicularly to the centre line of width of the seat, at a point 125 mm forward from the vertical projection of the point X of the chair back on this line, and with the chair back placed in its most forward position.

4.2.2 Backrest

4.2.2.1 Reference point *X*

Point *X* is the centre of the area on the backpad that provides essential lumbar support

4.2.2.2 Height *V*

Height *V* is the height of the area on the backpad that provides essential lumbar support.

4.2.2.3 Backrest height *W*

The backrest height *W* is the vertical height from *X* to *Z*₁ measured with the seat (if upholstered) compressed. If the backrest is adjustable, it is placed in its most forward position. If the backpad is pivoted about a horizontal axis, it is put in a vertical position.

4.2.2.4 Reference point *Z*

Point *Z* is the intersection of the axis of rotation of the seat and the upper surface of the seat compressed.

5 Material

5.1 Upholstery

The upholstery for use as covers for office chairs shall be in accordance with KS 892 Parts 1 and 2. If the upholstery is of the PVC-Coated type, then it shall meet the requirements of KS ISO 7617 Parts 1, 2 and 3. If leather upholstery, it shall conform to the requirements of KS ISO 17076 Part 2 and KS ISO 17236.

5.2 Base component(s)

The base component of the chair shall be made from suitable materials e.g. wood, plastics, metals or any other suitable material that confer stability and requisite strengths.

5.3 Foam mattress

The foam mattress used for the office chairs shall conform to KS 376.

6 Dimensions

6.1 Office chairs

The dimension of the office chairs shall be as specified in Table 1.

6.1.1 Slope of the backrest

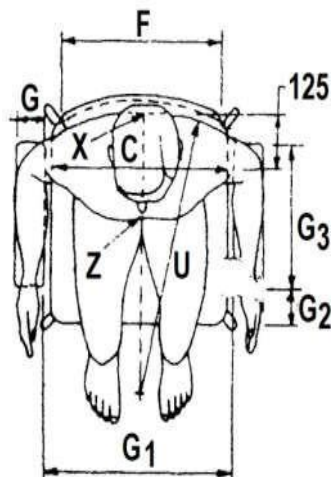
The angle between the vertical plane of the backrest and the horizontal plane of the seat shall be 95 to 105 ° when measured as shown in figure 1.

6.1.2 If of reclining type, the chair shall be stable and not topple over when tested in accordance with KS ISO 7174-1:1988

6.1.3 The dimensions of office chairs, adjustable type, shall be as specified in Table 1.

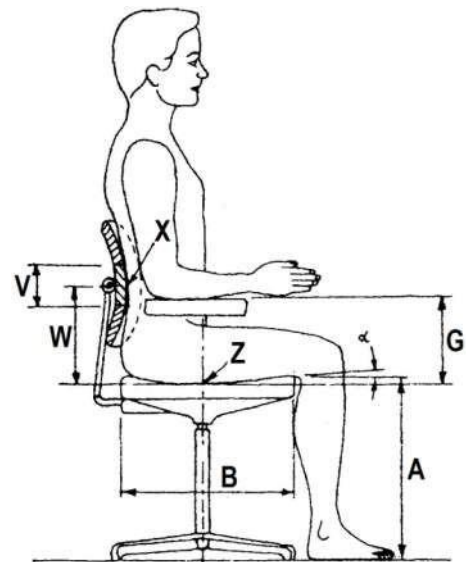
Table 1 Dimensions of office chairs
(See Fig. 1 and 2) (Clauses 3.1 and 3.2)

Seat	mm
A Seat height:	
— Chair with fixed height seat	400 Min.
— Chair with adjustable height seat	390, Min
B Effective seat depth:	
— Chair with fixed back	390 Min,
— Chair with adjustable back	390 Min,
C Seat width	400 Min
Slope of the seat in relation of horizontal from front to back	0° – 6° backward
Armrests (if provided)	
G Height of armrests above point Z of the seat	200 Min,
G₁ Inside distance between armrests	440 Min,
G₂ Set back of armrests in relation to the front of the seat	100 Min,
G₃ Length of the armrests	200 Min,
G₄ Width of the armrests	50 Min,
Backrest	mm
W Centre of the backrest above Z	
— Chair with fixed backrest	200 Min,
— Chair with adjustable backrest	200 Min,
V Vertical height of area of essential lumbar support (having X at its centre)	150 Min,
F Width of area of essential lumbar support	300 Min,
U Horizontal curvature of lumbar support, radius	400 Min,
<p>Notes</p> <p>1 The range of adjustment provided shall include at least the specified minimum range and may be larger.</p> <p>2 Care shall be taken that in case of backrest the top edge does not end at the middle of the wing bone of the back. It should be raised either up to the shoulder level or it should be below the lower part of the wing bone in normal upright casual sitting posture while upper arm hanging vertically and elbow flexion is 90°.</p> <p>3 For high backrest angle range – 20° for lower backrest range restricted from 95° to 105°.</p>	



All dimensions in millimetres

Fig. 1 Office chair adjustable revolving type



All dimensions in millimetres

Fig. 2 Office chair (Aerial view)

7 PACKING AND MARKING

7.1 PACKING

Each Chair shall be suitably packed to protect it from damage during transportation.

7.2 MARKING

Each packaging material shall be marked with a registered trademark or a suitable mark identifying the manufacturer, the type, country of origin and model number of the chair.