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(JOIFA/JSA)

Office furniture—Chairs

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Office & Institutional Furniture Association (JOIFA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS S 1032:2004** is replaced with this Standard.

However, **JIS S 1032:2004** may be applied in the **JIS** mark certification based on the relevant provisions of Article 19 Clause 1, etc. of the Industrial Standardization Law until September 21, 2016.

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Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Office furniture—Chairs

Introduction

This Japanese Industrial Standard was established in 1960 and has gone through nine revisions since then, and the last revision was made in 2004. The need for the revision at this time arose from establishment of **JIS S 1043** which was made following the establishment of **JIS S 1206**. This revision also involves updating the specifications to accommodate the diversified use conditions and improved product quality.

No corresponding International Standard has been established at this point.

1 Scope

This Standard specifies the chairs for offices (hereafter referred to as “chairs”).

It is not applicable to the seat height adjustable swivel chairs specified in **JIS S 1043**. The chairs specified in this Standard are one-person chairs intended mainly for office use that are composed of several main components such as a seat, a backrest, armrests and legs. Knock-down type chairs are included but those seat height adjustable swivel chairs which are not stools are excluded.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 1531 *Furniture—Assessment of surface resistance to cold liquids*

JIS A 5549 *Adhesives for fixture*

JIS A 5905 *Fiberboards*

JIS A 5908 *Particleboards*

JIS H 8610 *Electroplated coatings of zinc on iron or steel*

JIS H 8617 *Electroplated coatings of nickel and chromium*

JIS K 5600-5-6 *Testing methods for paints—Part 5: Mechanical property of film—Section 6: Adhesion test (Cross-cut test)*

JIS K 5961 *Household varnish for interior wooden floor*

JIS K 5962 *Household paint for wood and metal*

JIS S 1043 *Office furniture—Seat height adjustable swivel chairs*

JIS S 1203 *Furniture—Chairs and stools—Determination of strength and durability*

JIS S 1204 *Furniture—Chairs—Determination of stability—Part 1: Upright chairs and stools*

JIS Z 1522 *Pressure sensitive adhesive cellophane tapes*

JIS Z 2101 *Methods of test for woods*

JIS Z 8703 *Standard atmospheric conditions for testing*

Japanese Agricultural Standard (JAS) *Sawn lumber*

Japanese Agricultural Standard (JAS) *Plywood*

Japanese Agricultural Standard (JAS) *Glued laminated timber*

Japanese Agricultural Standard (JAS) *Laminated veneer lumber*

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 seat

the member of a chair which constitutes the plane to support the vertical load exerted by human weight

3.2 backrest

the member of a chair which constitutes the plane to support the horizontal load exerted by human weight

3.3 armrests

the member of a chair provided for supporting arms

3.4 legs

the member of a chair which provides a construction to support all the loads exerted on the seat and the backrest

4 Classification

Chairs are classified into the following types according to the construction.

- a) **Swivel chairs** The chairs, of which the seat revolves on the legs, having a backrest with armrests or without armrests. Those with height adjustable seats are not included.

NOTE : See **JIS S 1043**.

- b) **Non-swivel chairs** The chairs, of which the seat is fixed to legs, having a non-swivel backrest with or without armrests. Those with height adjustable seats are included.
- c) **Folding type chairs** The chairs with foldable seat, legs, backrest, etc. that can be folded when not in use, and having a backrest with or without armrests.
- d) **Stools** The chairs without backrest. Those swivelling and those with a height adjustable seat are included.

5 Dimensions

The dimensions of the chair shall be agreed between the interested parties.

NOTE : For the dimensions of chairs, see Annex B.

6 Quality

6.1 Appearance

The appearance shall be as follows.

- a) The appearance shall be free from defects detrimental to product characteristics, such as flaws or indentations.
- b) The chair shall be free from sharp corners, protrusions, burrs or flashes in parts which would come in contact with human bodies or clothes.
- c) The painted surfaces that are visible shall be uniform in gloss and colour tone, and be free from uneven painting, sagging, etc.

6.2 Performance

- a) The performance of products and components shall conform to Table 1 when tested as given in clause 8.
- b) The materials given in Table 2 shall meet their respective performance requirements.

Table 1 Performance (1)

Items		Performance	Applicable subclause
Stability ^{a)}	Forward stability, and armless chair sideways stability	It shall not overturn.	8.2 a)
	Rearward stability		8.2 b)
	Sideways stability of arm chair		8.2 c)
	Stability in all directions of stool		8.2 d)
Static strength and durability	Static strength test of seat	There shall be no damage, deformation, looseness, disconnection or wear that may be detrimental to use.	8.3 a)
	Static strength test of backrest		8.3 b)
	Static horizontal force test of armrests		8.3 c)
	Static vertical force test of armrests		8.3 d)
	Durability test of seat		8.3 e)
	Durability test of backrest		8.3 f)
	Static forward strength test of legs ^{a)}		8.3 g)
	Static sideways strength test of legs ^{a)}		8.3 h)
	Diagonal strength test of base ^{b)}		8.3 i)
Impact resistance	Impact resistance test of seat	There shall be no damage, deformation, looseness, disconnection or wear that may be detrimental to use.	8.4 a)
	Impact resistance test of backrest		8.4 b)
	Impact resistance test of armrests		8.4 c)
	Drop test		8.4 d)

Table 1 (concluded)

Items		Performance	Applicable subclause
Surface treatment ^{c)}	Test of surface resistance to cold liquids ^{d)}	Grade 3 or over specified in JIS A 1531 .	8.5 a)
	Coating adherence test of metal and wood	Flaking of the coating shall be equal to Class 2 or better specified in JIS K 5600-5-6 .	8.5 b)
	Corrosion resistance test of the coated metal	There shall be no blistering or rust in any part outside the area of 3 mm width on both sides of the inscribed lines.	8.5 c)
	Plating thickness test of metal	The measured thickness shall satisfy Grade 2 or over specified in Table 1 of JIS H 8610 , or Grade 2 or over specified in Tables 1 and 2 of JIS H 8617 .	8.5 d)
Notes ^{a)} Not applicable to swivel chairs. ^{b)} Applicable to the chairs without legs and a column. ^{c)} Not applicable to concealed part of the coating. ^{d)} Applicable to the painted surface and plated surface of metallic part.			

Table 2 Performance (2)

Items			Performance	Applicable standard
Material	Wood	Moisture content	Sawn lumber specified in the relevant Japanese Agricultural Standard (JAS) or the like, no more than 12 % in moisture content, free from significant imperfections like cracks, deformation and insect attacks. The moisture content shall be measured as specified in JIS Z 2101 .	Japanese Agricultural Standard (JAS)
	Wooden material	Formaldehyde emission	Not exceeding F☆☆☆.	JIS A 5905 or JIS A 5908
	Plywood			Japanese Agricultural Standard (JAS)
	Glued laminated timber			Japanese Agricultural Standard (JAS)
	Laminated veneer lumber (LVL)			Japanese Agricultural Standard (JAS)
	Adhesive	Formaldehyde emission amount or emission speed	Not exceeding F☆☆☆.	JIS A 5549
	Coating			JIS K 5961 or JIS K 5962

7 Structure

The chair structure shall satisfy, among the following requirements, those relevant to the chair under test.

- a) Joints shall be combined firmly by welding, bonding, screwing or other method so that they are resistant to flaking or loosening.
- b) Wood or wooden material, if any, shall be processed appropriately by sawing, drying, finishing or other method so that it is resistant to bending, warping, twisting, etc.
- c) The operation part, if any, shall be easy in handling and excellent in durability.
- d) The swivelling part or reclining mechanism, if any, shall be securely mounted, smooth in movement and free from excessive noise when used.
- e) The structure of the removable parts and members shall allow secure fixing.
- f) The castors shall be fixed firmly so that they are free from looseness and falling-out and smooth in movement.
- g) The structure of the folding mechanism shall allow smooth and secure operation, and shall not allow unintended folding of legs during use.

8 Tests

8.1 General test conditions

For general test conditions, see the standards cited for respective types of tests.

Unless otherwise specified, the test atmosphere shall be in accordance with the normal temperature and humidity specified in **JIS Z 8703**. When using a loading pad specified in **JIS S 1203** or **JIS S 1204** in the tests, it shall be assured that it does not affect the testing load, and it shall be reflected in the test report that the loading pad has been used in the test.

The force, number of cycles or other details of the test shall be in accordance with Annex A.

NOTE : The loading pad should not hinder the rotation in any force application directions.

8.2 Stability test

The stability test is carried out to verify the resistance of a chair to an overbalancing force. The following items shall be tested.

- a) **Forward stability and armless chair sideways stability** The test shall be carried out in accordance with **7.1.1** of **JIS S 1204** as given in Table A.1. A horizontal force of 20 N shall be applied to the sides of the chair to see if it overturns.
- b) **Rearward stability** The test shall be carried out in accordance with **7.1.2** of **JIS S 1204** as given in Table A.1. A horizontal force of 80 N to 120 N shall be applied to the chair to see if it overturns.