

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS S 1104 : 2004
(JTCCM/JSA)

Bunk beds for domestic use

ICS 97.140

Reference number : JIS S 1104 : 2004 (E)

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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 Testing Center for Construction Materials (JTCCM)/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 1104 : 1995** is replaced with this Standard.

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Date of Establishment: 1979-07-01

Date of Revision: 2004-09-20

Date of Public Notice in Official Gazette: 2004-09-21

Investigated by: Japanese Industrial Standards Committee
Standards Board

Technical Committee on Consumer Life
Products

JIS S 1104:2004, First English edition published in 2005-03

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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Printed in Japan

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Bunk beds for domestic use

1 Scope This Japanese Industrial Standard specifies the bunk beds⁽¹⁾⁽²⁾ for domestic use (hereafter referred to as “beds”).

Notes (1) The term “bunk beds”, in principle, refer to the body and ladder of the beds intended for use by children not younger than two years old, and mattress, bedclothes, or other accessories are not included.

(2) The special types such as the type using spring mattress, the type with fixed shelf, the foldable type are not included.

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

JIS A 5905 *Fiberboards*

JIS A 5908 *Particleboards*

JIS K 5431 *Shellac varnishes and bleached shellac varnishes*

JIS K 5651 *Aminoalkyd resin paint*

JIS K 6804 *Poly (vinylacetate) emulsion adhesives for woods*

JIS Z 2101 *Methods of test for woods*

JAS for plywood

3 Classification The classification of beds shall be as follows:

- a) **Fixed type** The beds incapable of being separated to the upper bed and the lower bed.
- b) **Separable type** The beds capable of being separated to the upper bed and the lower bed, normally used as vertically assembled.

Remarks : There are fixed type, detachable type and vertical type, inclined type, for ladder.

4 Designation of each part The designation of each part for the body of beds shall be in accordance with figure 1.

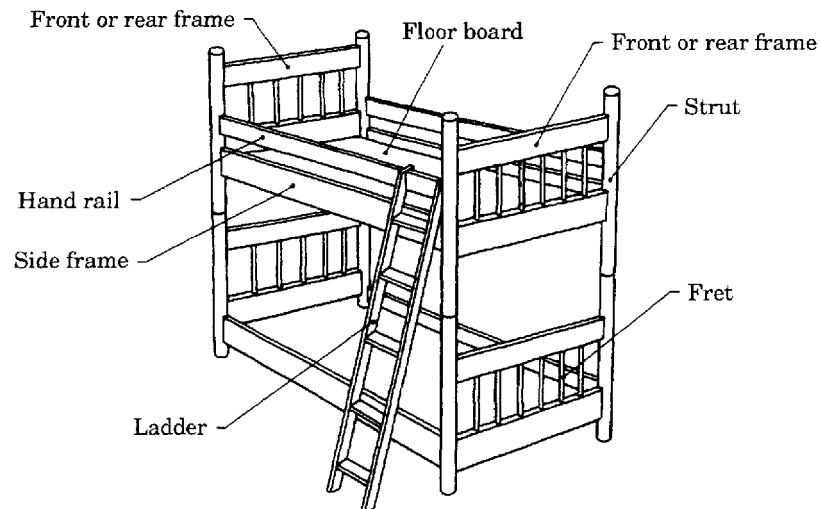


Figure 1 Designation of each part of beds

5 Quality The quality of beds shall be as follows:

- a) The beds shall be stable when placed on horizontal floor, not generate creak, strange sound, etc. when used, and be strong.
- b) Each part shall be well finished and be free from protrusions, sharp corners, fine splits, burrs, turn-ups, etc.
- c) The paint film shall not have the possibility of peeling easily, be smooth on the surface and free from cracks and noticeable irregular colour.
- d) The performance, when tested according to clause 9, shall conform to table 1.

Table 1 Quality

Item		Performance	Test method
Vertical load	Bed body	No abnormality at 1 800 N. For the front or rear frame, no abnormality at 600 N.	9.1.1
	Fixed type and detachable type ladder	No abnormality in ladder, hand rail, side frame, etc. at 1 500 N.	9.1.2
Horizontal load	Bed body	No abnormality after 10-times application of 450 N.	9.2.1
	Front or rear frame	No abnormality at 300 N.	9.2.2
	Fret	No abnormality at 150 N.	9.2.3
	Hand rail	Fixed type The amount of displacement not more than 30 mm and no abnormality at 150 N.	9.2.4 a)
		Detachable type No damage and disconnection at 150 N.	9.2.4 b)
	Detachable ladder	No abnormality in the strut of ladder at 1 000 N.	9.2.5

Table 1 (concluded)

Item			Performance	Test method
Strength at the part of fixing ladder	Detachable ladder	a)	The fixing part is free from disconnection at 200 N.	9.3.1 a)
		b)	No abnormality when subjected to 10-times shaking at 50 N.	9.3.1 b)
	Fixed type ladder		No disconnection at 450 N.	9.3.2

6 Construction and processing The construction and processing of beds shall be as follows:

- a) The processing such as nailing, screwing, inserting, adhering, sewing, welding shall be secure and be constructed so as not to have the danger of causing looseness easily after assembled.
- b) The construction of each part shall be as follows:
 - 1) The hand rail shall be equipped at both sides of the upper bed and be securely fixed, with not more than one opening equipped for climbing on to the upper bed (see figure 6).
 - 2) The drop prevention structure of floor board shall be equipped (see figure 2).
 - 3) For the floor board which is not a fixed type, when it is placed over the floor board holding parts so that one end contacts the side frame, the overlap of the opposite side of the floor board on floor board holding part shall be not less than 15 mm (see figure 3).
 - 4) The floor board of upper bed shall be permeable and be constructed so that foreign matters, etc. do not fall on the lower bed.
 - 5) The upper surface of floor board shall be constructed so as not to slip.
 - 6) The ladder shall be securely fixed, and the upper surface of step tread of ladder shall be flat and the surface shall be approximately horizontal.
 - 7) The hooking metal fittings and the like shall be used so as not to loosen easily under the condition of fixing ladder to side frame or hand rail and the plenty of hooking margin shall be taken.

When the hooking metal fittings are used, these shall be covered with metal fittings covers, etc.

In the case of inclined type ladder, the gap between the side frame of the lower bed and the strut and step tread of ladder shall be not less than 150 mm (see figure 4).

- 8) When dowels are used at the jointing part of upper bed and lower bed in the case of separable type bed, the thickness of dowel shall be not less than 8 mm in diameter for metallic dowel and not less than 12 mm in diameter for wooden dowel, and the effective length of dowel at one side shall be not less than 20 mm (see figure 5). Other methods, when used, shall have the strength equal or superior to the dowel jointing.