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Wooden axilla crutches

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry, through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

Date of Establishment: 1982-04-01

Date of Revision: 1994-03-01

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Wooden axilla crutches

1 Scope This Japanese Industrial Standard specifies wooden axilla crutches used mainly by adults.

Remarks 1 The normative references of this Standard are shown below.

JIS B 0205 *Metric coarse screw threads*

JIS B 1185 *Wing nuts*

JIS K 5531 *Nitrocellulose lacquer*

JIS K 5533 *Lacquer sealer*

JIS K 6804 *Poly (vinyl acetate) emulsion adhesives for woods*

JIS T 0101 *Glossary of terms in prosthetics and orthotics*

2 Units and numerical values indicated in { } in this Standard are conventional ones and are shown for reference.

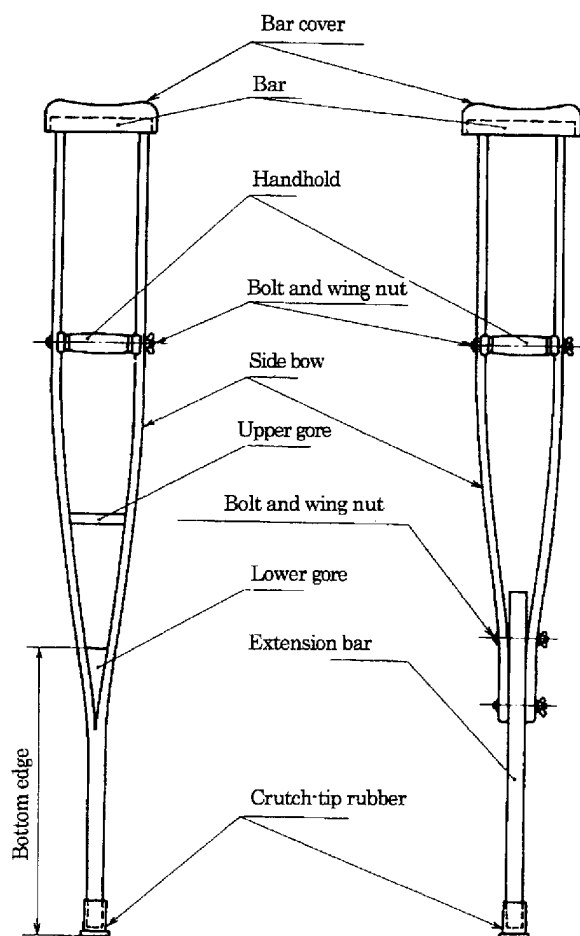
2 Definition of terms For the definitions of main terms used in this Standard, JIS T 0101 and the following apply.

- (1) **bar** a wooden part supporting the axilla and fixing the upper part of the side bow
- (2) **bar cover** a cover for the bar
- (3) **side bow** two wooden parts fixed to the bar with the handhold between
- (4) **handhold** a handhold part fixed between two side bows
- (5) **bottom edge** a part under the junction part where the two side bows meet
- (6) **extension bar** a bar fixed between the side bows at the bottom edge which is movable for size adjustment in the extension type crutches
- (7) **gore** a wooden part fixed between the two side bows at the bottom connection part
- (8) **crutch-tip rubber** a rubber mounted at the tip of the bottom edge
- (9) **tread** a face of the crutch-tip rubber which is in contact with the floor

3 Names of parts Names of parts of the wooden axilla crutch are shown in figure 1.

(a) Fixed type

(b) Extension type

**Figure 1 Names of parts**

4 Types Wooden axilla crutches are classified into two types; fixed type wooden axilla crutch (hereafter referred to as “fixed type”) and extension type wooden axilla crutch (hereafter referred to as “extension type”). Moreover, the crutches are also classified according to the whole length (wooden part) as described in table 1:

Table 1 Types and classification

Unit : mm

Types	Fixed type	Extension type	
Classification	Whole length (Wooden part)	Whole length (Wooden part)	
		Minimum	Maximum
L	$1\,273 \pm 2$	$1\,150 \pm 2$	$1\,325 \pm 2$
M	$1\,152 \pm 2$	$1\,070 \pm 2$	$1\,210 \pm 2$
S	—	915 ± 2	$1\,060 \pm 2$

5 Performance The wooden axilla crutches shall meet the following provisions.

- (1) The wooden axilla crutches shall keep sufficient strength and safety.
- (2) The wooden axilla crutches shall not tear, split, or loosen when being tested according to the method specified in 9.2.2 (1).
- (3) The wooden axilla crutches shall not bend exceeding 50mm when tested according to the method specified in 9.2.2 (2).

6 Structure and size The structure and size of each part of the wooden axilla crutches shall meet the following provisions.

- (1) Shape and size for the fixed type crutches shall be in accordance with attached figure 1 and attached table 1, respectively, and those of extension type in accordance with attached figure 2 and attached table 2, respectively.
- (2) Each part shall be given appropriate fillet and have a smooth surface.
- (3) Parts which would be in contact with the user's body shall have no sharp projection or angle.
- (4) The connection parts shall be structured as preventing looseness.
- (5) The coated face shall be lustrous, even in colour tone, and smooth without uneven coating, dripping, or pinhole.

7 Materials Woods to be used shall meet the following provisions.

- (1) Woods shall be solid materials such as beech and bract or first-class ones at least equivalent in strength and be dried up to the level of the water content 15% (by an electric hydrous meter).
- (2) Woods shall have no following defects.
 - (a) Corrosion
 - (b) Termite damage
 - (c) Knot hole
 - (d) Splitting and cracking
 - (e) Compression failure
 - (f) Upsets
 - (g) Fat crotch
 - (h) Rind-gall
 - (i) Warping
 - (j) Grain depression
 - (k) Surface hardening

- (3) **Knot** Woods shall have no knots. However, knots of 3mm or less diameter which would not be detrimental to use are negligible as long as they are not present at portions where holes are made.
- (4) **Annual ring** Woods whose annual rings count 4 to 16 per 25mm range in radial direction shall be used.
- (5) **Grain** The grain gradient in a solid material shall be as small and even as possible.

8 Manufacture method

8.1 Fixed type The manufacture method of the fixed type shall be as shown in attached figure 1 and attached table 1, and the following.

- (1) **Bar** The part of the bar supported by the axilla shall be given a furrow that contours the axilla and be chamfered.
- (2) **Side bow**
 - (a) Materials for the side bows shall undergo the tests specified in 9.1 and be used in compatible combinations in terms of strength and elasticity.
 - (b) The connection part with the bar shall be fixed firmly with nails to the bar by means of tenons 15×15mm after an adhesive agent is applied.
 - (c) The two side bows shall be fixed together firmly at the bottom edges with two or three flat head wood screws after an adhesive agent is applied. The holes for wooden screws shall be plugged with wooden pieces of similar kind.
 - (d) The tips of the bottom edges of the side bows shall be chamfered to facilitate the mounting of the crutch-tip rubbers.
 - (e) Five adjustment holes 6mm or less in diameter shall be provided at intervals of 40mm on handholds.
 - (f) All parts other than the connection part shall be chamfered.
- (3) **Handhold**
 - (a) Materials for handhold shall be ABS resin for high impact or the combination of the said resin and wood (see attached figure 1 (d), which indicates the combination case.).
 - (b) The handhold shall be barrel shaped and shall be provided with a rotation stopper.
 - (c) The handhold shall be fixed with bolts or wing nuts to prevent a rotation in the joint with the side bows.
- (4) **Gore**
 - (a) The lower gore shall be incorporated into the junction of the side bows and have the length of 130mm or more.
 - (b) The gores and the side bows shall be fixed firmly with two flat head wood screws after an adhesive agent is applied. The holes for wooden screws shall be plugged up with wooden pieces of similar kind.