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## Martial arts — Wushu Taiji clothing — Requirements and test methods

*Arts martiaux — Tenues de tai-chi-chuan — Exigences et méthodes  
d'essai*

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# Contents

|                                                  | Page      |
|--------------------------------------------------|-----------|
| Foreword .....                                   | iv        |
| Introduction .....                               | v         |
| <b>1 Scope .....</b>                             | <b>1</b>  |
| <b>2 Normative references .....</b>              | <b>1</b>  |
| <b>3 Terms and definitions .....</b>             | <b>1</b>  |
| <b>4 Classifications .....</b>                   | <b>5</b>  |
| <b>5 Requirements .....</b>                      | <b>6</b>  |
| 5.1 Fabric selection .....                       | 6         |
| 5.2 Patterns and designs .....                   | 6         |
| 5.3 Measurements and sizes .....                 | 6         |
| 5.4 Properties .....                             | 8         |
| 5.5 Aspect .....                                 | 8         |
| 5.6 Change in colour .....                       | 9         |
| 5.7 Defects in aspect .....                      | 9         |
| 5.8 Stitch density of sewing .....               | 9         |
| <b>6 Test methods .....</b>                      | <b>10</b> |
| 6.1 Measurements and sizes .....                 | 10        |
| 6.2 Properties .....                             | 10        |
| 6.2.1 Dimensional stability to washing .....     | 10        |
| 6.2.2 Formaldehyde content .....                 | 10        |
| 6.2.3 pH value .....                             | 11        |
| 6.2.4 Decomposable aromatic amine dyes .....     | 11        |
| 6.2.5 Colour fastness to water .....             | 11        |
| 6.2.6 Colour fastness to washing with soap ..... | 11        |
| 6.2.7 Colour fastness to perspiration .....      | 11        |
| 6.2.8 Crease resistance .....                    | 11        |
| 6.2.9 Tear strength .....                        | 11        |
| 6.2.10 Seam strength of the back rise .....      | 11        |
| 6.3 Aspect .....                                 | 11        |
| 6.3.1 General .....                              | 11        |
| 6.3.2 Change in colour .....                     | 11        |
| 6.3.3 Sewing .....                               | 11        |
| <b>Bibliography .....</b>                        | <b>12</b> |

## 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 of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, Subcommittee SC 6, *Martial arts*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

With the increasing popularity of Wushu (Chinese martial arts also known as Kung Fu), especially various Taiji sports, Wushu Taiji clothing has become a type of sport clothes widely used in sport, leisure activities and workout exercises as well as for demonstration to the public. Although it is being used and sold throughout the world, no relevant standards have been established.

This document is intended to provide guidelines to businesses, practitioners and to promote the international trade of the Wushu Taiji clothing. It has been designed as a technical support and for the promotion of Taiji sports in a scientific and safe way to safeguard consumers' safety and interests.

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# Martial arts — Wushu Taiji clothing — Requirements and test methods

## 1 Scope

This document specifies classifications, requirements and test methods of Wushu Taiji clothing for performing the Wushu Taiji sport. This document is applicable to the Wushu Taiji clothing made of textile fabrics for adult users.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 105-C10, *Textiles — Tests for colour fastness — Part C10: Colour fastness to washing with soap or soap and soda*

ISO 105-E01, *Textiles — Tests for colour fastness — Part E01: Colour fastness to water*

ISO 105-E04, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration*

ISO 3071, *Textiles — Determination of pH of aqueous extract*

ISO 3759, *Textiles — Preparation, marking and measuring of fabric specimens and garments in tests for determination of dimensional change*

ISO 7769, *Textiles — Test method for assessing the appearance of creases in fabrics after cleansing*

ISO 13935-2, *Textiles — Seam tensile properties of fabrics and made-up textile articles — Part 2: Determination of maximum force to seam rupture using the grab method*

ISO 13938-2, *Textiles — Bursting properties of fabrics — Part 2: Pneumatic method for determination of bursting strength and bursting distension*

ISO 14184-1, *Textiles — Determination of formaldehyde — Part 1: Free and hydrolysed formaldehyde (water extraction method)*

ISO 14362-1, *Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres*

ISO 14362-3, *Textiles — Methods for determination of certain aromatic amines derived from azo colorants — Part 3: Detection of the use of certain azo colorants, which may release 4-aminoazobenzene*

## 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:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **Wushu Taiji clothing**

apparel for practice and demonstration of the Wushu Taiji sport, with features of *Chinese stand collar* (3.2), *monolithic even sleeve* (3.4) and *Chinese frog buttons* (3.3) for closure

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

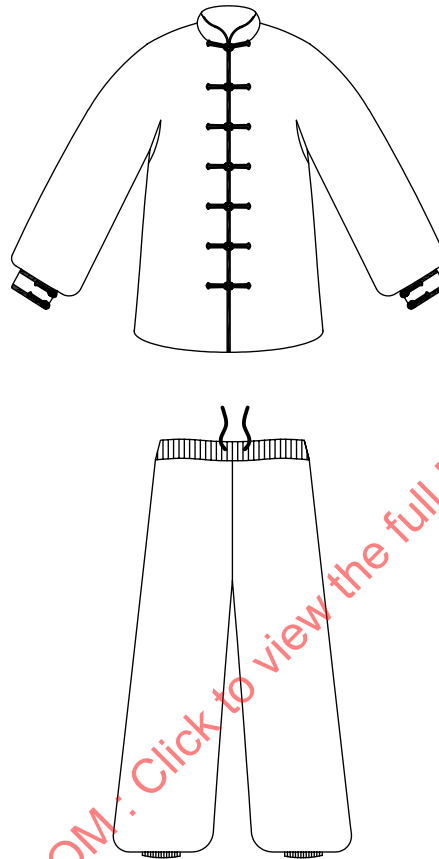


**Figure 1 — Men's Wushu Taiji clothing**

### 3.2

#### **Chinese stand collar**

stand collar around the neck in whole encircling shape, with rounded corners

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

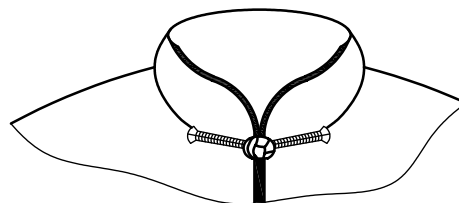


**Figure 2 — Chinese stand collar**

**3.3****Chinese frog button**

handmade and knotted button in the shape of Chinese character number one

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

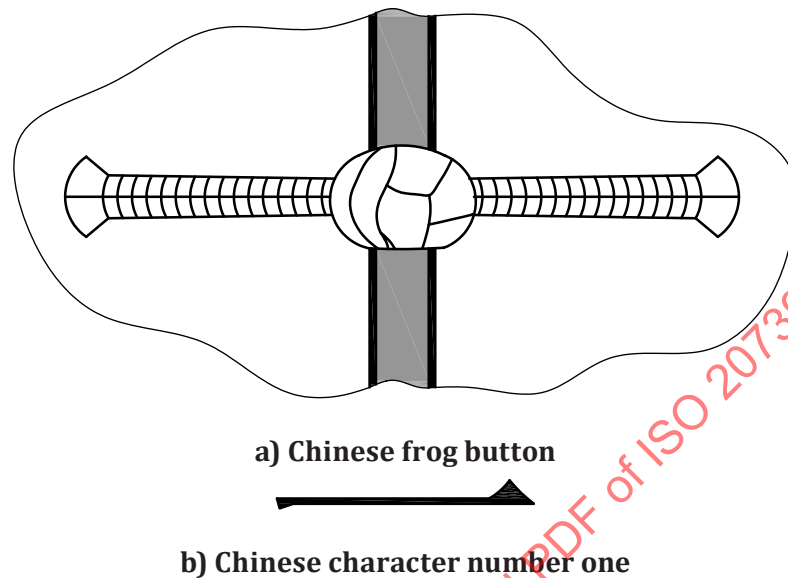


**Figure 3 — Chinese frog button in shape of Chinese character number one**

**3.4****monolithic even sleeve**

sleeve that is a seam joining of the armhole and shoulder

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

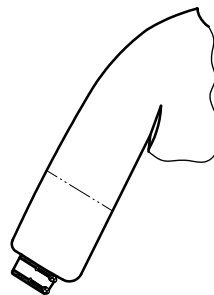


**Figure 4 — Monolithic even sleeve**

**3.5****placket**

opening position in front of the jacket

Note 1 to entry: See [Figure 5](#).

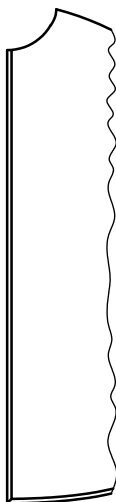


Figure 5 — Plaket

### 3.6 duijin

two sides of the *plaket* (3.5), together without overlapping

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

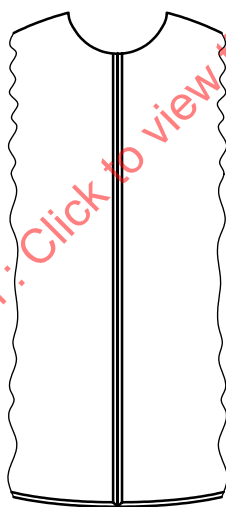


Figure 6 — Duijin

### 3.7 lantern sleeve

sleeve which looks like a puffed Chinese lantern

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

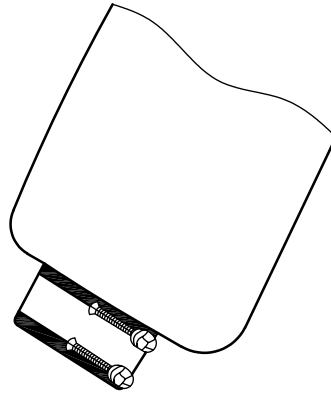


Figure 7 — Lantern sleeve

### 3.8

#### **bloomers**

pants that legs look like a puffed Chinese lantern

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

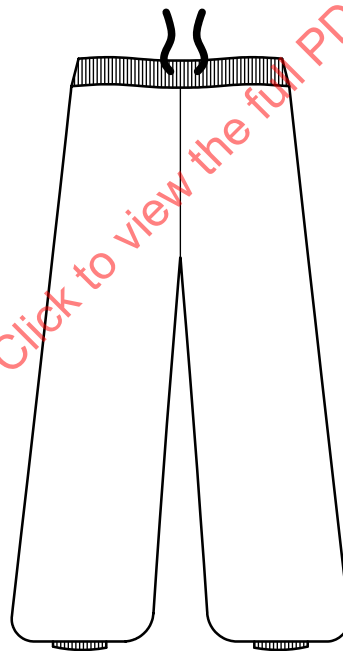


Figure 8 — Bloomers

## 4 Classifications

4.1 Wushu Taiji clothing is categorized by the following two types according to the users:

- a) men's Wushu Taiji clothing;
- b) women's Wushu Taiji clothing.

4.2 Wushu Taiji clothing is categorized by the following two types according to the product structure:

- a) jackets;

b) bloomers.

## 5 Requirements

### 5.1 Fabric selection

**5.1.1** The fabric shall be suitable for performing Taiji sport with good air permeability and draping property.

**5.1.2** The fabric of Chinese frog buttons and that of the jacket should be suitable.

### 5.2 Patterns and designs

**5.2.1** The jacket shall be made with Chinese stand collar, Chinese frog buttons, monolithic even sleeve and triangle underarm gussets.

**5.2.2** The jacket shall be made with side slit open downward from the same level of the 7th pair of Chinese frog buttons, with the hem size of 0,9 cm to 1,2 cm in width along the collar, central fronts, side slits and bottoms.

**5.2.3** For men's jacket, the jacket should be in Duijin style, with 7 pairs of Chinese frog buttons down the central front, with the whole length of the button of 10 cm to 13 cm and the distance to the next button of 7 cm to 10 cm. The two halves of the button shall be equal in length. For women's jackets the requirements are the same as for the men jackets.

**5.2.4** The jacket shall be made with lantern sleeve with a slit of 5 cm to 10 cm open at the sleeve cuff, which shall be 4 cm to 6 cm wide. Two pairs of Chinese frog buttons shall be on the sleeve cuff with the distance between them of 3 cm to 4 cm.

**5.2.5** The pants shall be bloomers with no side seams. The waist and leg openings shall be elastic.

### 5.3 Measurements and sizes

**5.3.1** The measurements and sizes of men's Wushu Taiji jackets shall be according to [Table 1](#).

**5.3.2** The measurements and sizes of men's Wushu Taiji pants shall be according to [Table 2](#).

**5.3.3** The measurements and sizes of women's Wushu Taiji jackets shall be according to [Table 3](#).

**5.3.4** The measurements and sizes of women's Wushu Taiji pants shall be according to [Table 4](#).

**Table 1 — Measurements and sizes of men's Wushu Taiji jackets**

Dimensions in centimetres

| Size       | Height    | To fit chest | Measurements of men's jackets |              |                    |                |               |               |
|------------|-----------|--------------|-------------------------------|--------------|--------------------|----------------|---------------|---------------|
|            |           |              | Chest                         | Front length | Centre back length | Collar opening | Collar height | Sleeve length |
| S          | 153 - 157 | 83 - 86      | 108                           | 76           | 74                 | 42             | 3,5           | 80            |
| M          | 158 - 162 | 87 - 90      | 112                           | 78           | 76                 | 43             | 3,5           | 82            |
| L          | 163 - 167 | 91 - 94      | 116                           | 80           | 78                 | 44             | 3,5           | 84            |
| XL         | 168 - 172 | 95 - 98      | 120                           | 82           | 80                 | 45             | 3,5           | 86            |
| 2XL        | 173 - 177 | 99 - 102     | 124                           | 84           | 82                 | 46             | 3,5           | 88            |
| 3XL        | 178 - 182 | 103 - 106    | 129                           | 86           | 84                 | 47             | 3,5           | 90            |
| 4XL        | 183 - 187 | 107 - 111    | 134                           | 88           | 86                 | 48             | 3,5           | 92            |
| 5XL        | 188+      | 112+         | 139                           | 90           | 88                 | 49             | 3,5           | 94            |
| Tolerances |           |              | ±2                            | ±1           | ±1                 | ±0,5           | ±0,2          | ±1            |

**Table 2 — Measurements and sizes of men's Wushu Taiji pants**

Dimensions in centimetres

| Size       | Height    | To fit hip | Measurements of men's pants |       |     |             |
|------------|-----------|------------|-----------------------------|-------|-----|-------------|
|            |           |            | Pants length                | Waist | Hip | Leg opening |
| S          | 153 - 157 | 87 - 90    | 107                         | 106   | 114 | 22          |
| M          | 158 - 162 | 91 - 94    | 110                         | 110   | 118 | 23          |
| L          | 163 - 167 | 95 - 98    | 113                         | 114   | 122 | 23          |
| XL         | 168 - 172 | 99 - 103   | 116                         | 118   | 126 | 24          |
| 2XL        | 173 - 177 | 104 - 107  | 119                         | 122   | 130 | 24          |
| 3XL        | 178 - 182 | 108 - 113  | 122                         | 126   | 134 | 25          |
| 4XL        | 183 - 187 | 114 - 119  | 125                         | 130   | 138 | 25          |
| 5XL        | 188+      | 120+       | 128                         | 134   | 142 | 26          |
| Tolerances |           |            | ±2                          | ±2    | ±2  | ±0,5        |

**Table 3 — Measurements and sizes of women's Wushu Taiji jackets**

Dimensions in centimetres

| Size       | Height    | To fit chest | Measurements of women's jackets |              |                    |                |               |               |
|------------|-----------|--------------|---------------------------------|--------------|--------------------|----------------|---------------|---------------|
|            |           |              | Chest                           | Front length | Centre back length | Collar opening | Collar height | Sleeve length |
| XS         | 148 - 152 | 80 - 83      | 104                             | 73           | 71                 | 40             | 3,5           | 78            |
| S          | 153 - 157 | 84 - 87      | 108                             | 75           | 73                 | 41             | 3,5           | 80            |
| M          | 158 - 162 | 88 - 91      | 112                             | 77           | 75                 | 42             | 3,5           | 82            |
| L          | 163 - 167 | 92 - 95      | 116                             | 79           | 77                 | 43             | 3,5           | 84            |
| XL         | 168 - 172 | 96 - 99      | 120                             | 81           | 79                 | 44             | 3,5           | 86            |
| 2XL        | 173 - 177 | 100 - 103    | 124                             | 83           | 81                 | 45             | 3,5           | 88            |
| 3XL        | 178+      | 104+         | 128                             | 85           | 83                 | 46             | 3,5           | 90            |
| Tolerances |           |              | ±2                              | ±1           | ±1                 | ±0,5           | ±0,2          | ±1            |

**Table 4 — Measurements and sizes of women's Wushu Taiji pants**

Dimensions in centimetres

| Size       | Height    | To fit hip | Measurements of women's pants |       |     |             |
|------------|-----------|------------|-------------------------------|-------|-----|-------------|
|            |           |            | Pants length                  | Waist | Hip | Leg opening |
| XS         | 148 - 152 | 83 - 86    | 101                           | 102   | 110 | 22          |
| S          | 153 - 157 | 87 - 89    | 104                           | 106   | 114 | 22          |
| M          | 158 - 162 | 91 - 94    | 107                           | 110   | 118 | 23          |
| L          | 163 - 167 | 95 - 98    | 110                           | 114   | 122 | 23          |
| XL         | 168 - 172 | 99 - 102   | 113                           | 118   | 126 | 24          |
| 2XL        | 173 - 177 | 103 - 106  | 116                           | 122   | 130 | 24          |
| 3XL        | 178+      | 107+       | 119                           | 126   | 134 | 25          |
| Tolerances |           |            | ±2                            | ±2    | ±2  | ±0,5        |

## 5.4 Properties

The required properties are specified in [Table 5](#).

**Table 5 — Required properties**

| Properties                                                                                            |                  | Standard value |         |
|-------------------------------------------------------------------------------------------------------|------------------|----------------|---------|
|                                                                                                       |                  | Knitting       | Weaving |
| Dimensional stability to washing (%)<br>(in accordance with ISO 3759)                                 | Fill direction   | -5,0 ~ +2,0    | ≥ 2,5   |
|                                                                                                       | Warp direction   |                | ≥ 2,0   |
| Formaldehyde content (mg/kg)                                                                          |                  | ≤ 75           |         |
| pH value                                                                                              |                  | 4,0 ~ 8,5      |         |
| Decomposable aromatic amine dyes (mg/kg)                                                              |                  | ≤ 20           |         |
| Colour fastness to water (grade)<br>(in accordance with ISO 105-E01)                                  | Change in colour | ≥ 3 ~ 4        |         |
|                                                                                                       | Staining         |                |         |
| Colour fastness to washing with soap (grade)<br>(in accordance with ISO 105-C10)                      | Change in colour |                |         |
|                                                                                                       | Staining         |                |         |
| Colour fastness to perspiration (grade)<br>(in accordance with ISO 105-E04)                           | Change in colour |                |         |
|                                                                                                       | Staining         |                |         |
| Tear strength, <i>N</i> (pure silk fabric excluded from the test)<br>(in accordance with ISO 13938-2) |                  | —              | ≥ 150   |
| Seam strength of the back rise of the pants ( <i>N</i> )<br>(in accordance with ISO 13935-2)          |                  | —              | ≥ 140   |

## 5.5 Aspect

**5.5.1** Stitches shall be neat and even.

**5.5.2** The collar shall be flat and smooth with its corners round, left-right symmetric and in the same size.

**5.5.3** Chinese frog buttons shall be placed at equal distance and can be buttoned up smoothly and flatly.

**5.5.4** The fabrics should be in good shape in both warp and weft directions.

## 5.6 Change in colour

The grade of change in colour < 3 (according to ISO 105-A02) shall be reached within any piece of the clothing.

## 5.7 Defects in aspect

Table 6 illustrates the aspect defects and Figure 9 illustrates the positions.

**Table 6 — Aspect defects**

| Defect type                                           | Tolerance of the defects on the different positions |                                  |                                  |
|-------------------------------------------------------|-----------------------------------------------------|----------------------------------|----------------------------------|
|                                                       | Part A1 and Part B1                                 | Part A2 and Part B2              | Part A3                          |
| Coarse yarn (double the thickness of the regular one) | 0,3 cm ~ 1,0 cm                                     | 1,0 cm ~ 2,0 cm                  | 2,0 cm ~ 4,0 cm                  |
| Big-belly yarn (3 strands)                            | Unacceptable                                        | Unacceptable                     | 1,0 cm ~ 4,0 cm                  |
| Pleat (crease mark)                                   | Unacceptable                                        | 1,0 cm ~ 2,0 cm<br>Unobvious     | 2,0 cm ~ 4,0 cm<br>Unobvious     |
| Stain (oil, rust and colour stains, dirty marks)      | Unacceptable                                        | No more than 0,3 cm <sup>2</sup> | No more than 0,5 cm <sup>2</sup> |
| Holes                                                 | Unacceptable                                        | Unacceptable                     | Unacceptable                     |

NOTE A for jackets and B for pants.

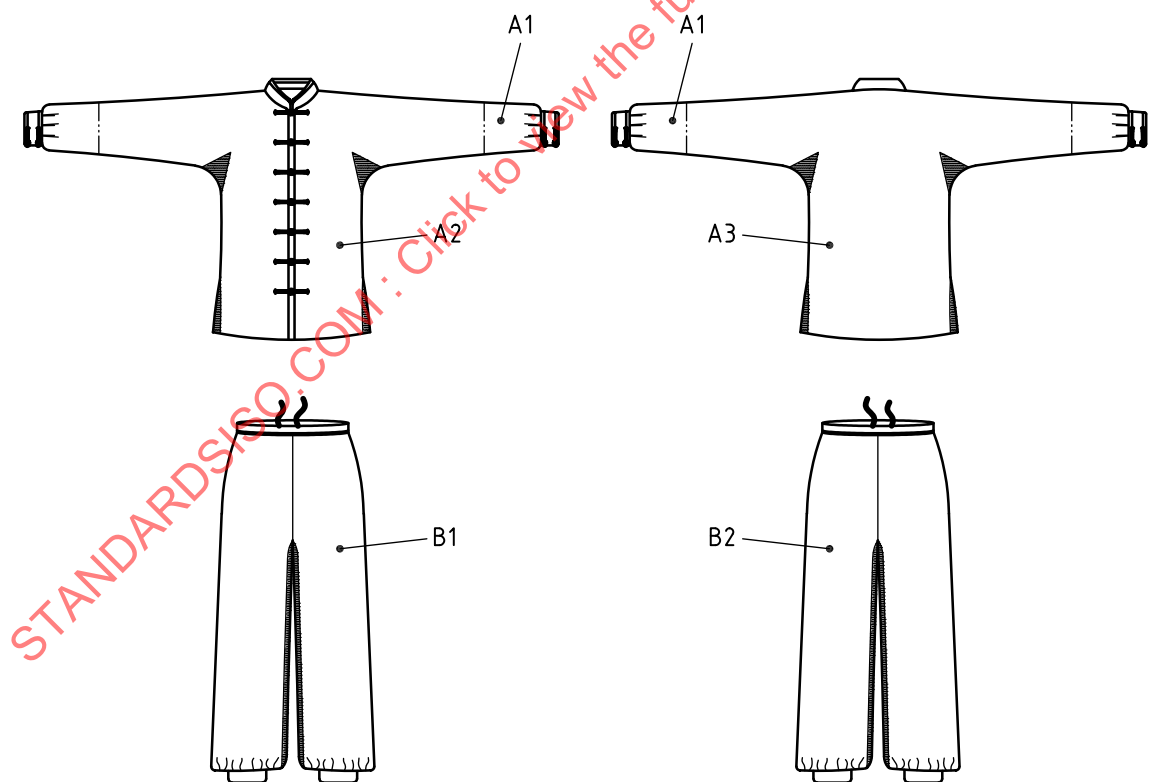


**Figure 9 — Positions of defects in aspect**

After production, the clothing shall be neat and smooth, with no loose threads and stains left.

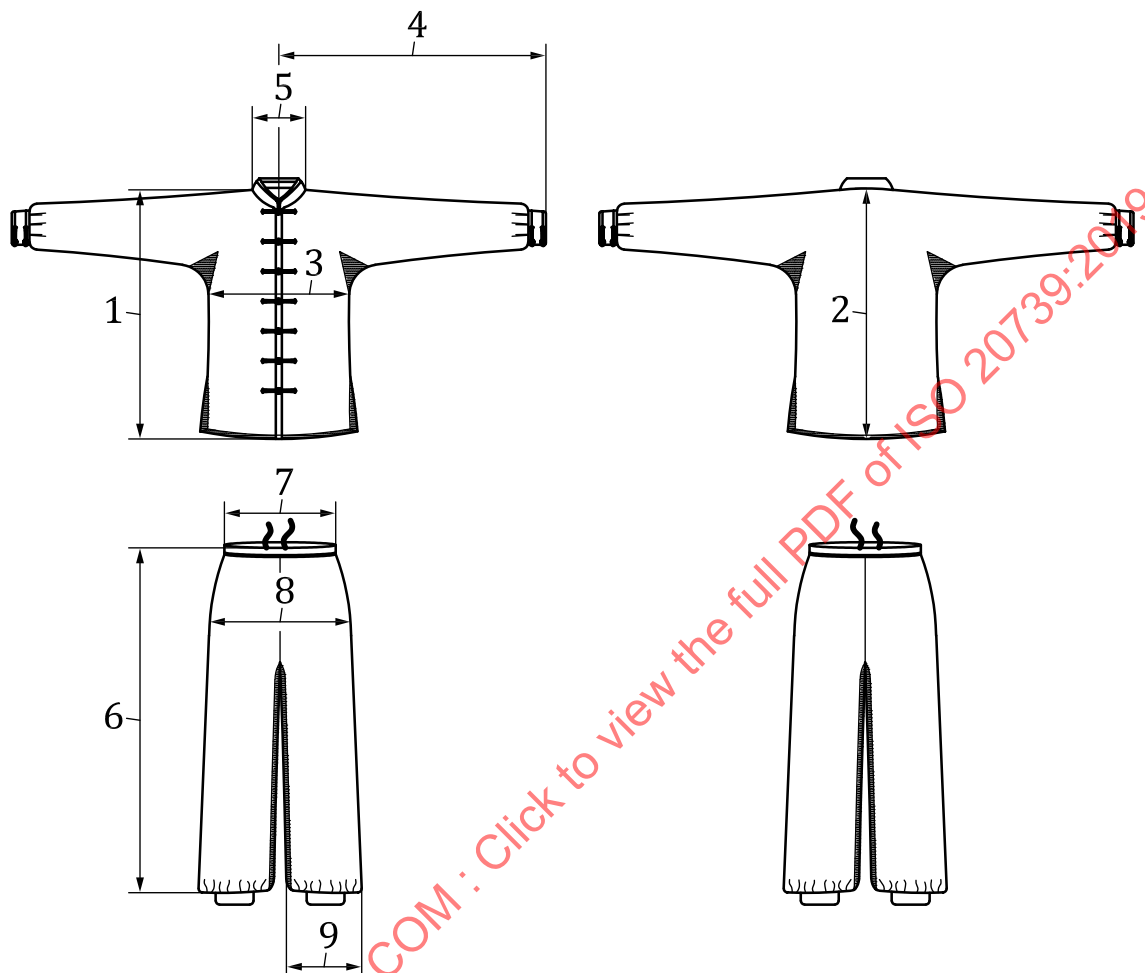
## 5.8 Stitch density of sewing

Stitch density of sewing shall be 4 to 5 stitches in 1 cm length for slant stitch, blind stitch, overlock stitch, hand seaming and frog button sewing.

## 6 Test methods

### 6.1 Measurements and sizes

A tape measure shall be used to measure the different parts (see [Figure 10](#)).



#### Key

- |   |                    |   |                         |
|---|--------------------|---|-------------------------|
| 1 | front length       | 6 | pant length             |
| 2 | centre back length | 7 | 1/2 waist circumference |
| 3 | chest width        | 8 | 1/2 hip size            |
| 4 | sleeve length      | 9 | bottom-leg width        |
| 5 | collar opening     |   |                         |

**Figure 10 — Measurement diagram**

## 6.2 Properties

### 6.2.1 Dimensional stability to washing

Carry out the test in accordance with ISO 3759.

### 6.2.2 Formaldehyde content

Carry out the test in accordance with ISO 14184-1.