INTERNATIONAL STANDARD

ISO 20740

First edition
2019-01

Martial arts — Wushu Taiji sword — Requirements and test method

Arts martiaux — Épée de tai-chi-chuan — Exigences et méthode d'essai

Reference number
ISO 20740:2019(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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).

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).

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.

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.

Introduction

Taiji sword (Taijijian) is an important component of Taiji sport and is one of the short weapons in Taiji.

The art of Taiji is a moderate form of exercise with slow and gentle movements, which are easy to learn, helpful for people to maintain peaceful mind and good physical health.

With the increasing popularity of Taiji swords, which are used worldwide, a variety of products have emerged, resulting in inconsistent product specifications and uneven quality.

So far, there is no unified standard at the global level. Therefore, this document is intended to support the promotion of Taiji sports and the development of trade among various countries and regions, with the aim of maintaining the consumers' safety and interests and providing an international platform for production and marketing enterprises.

Martial arts — Wushu Taiji sword — Requirements and test method

1 Scope

This document specifies terms and definitions, product structure, requirements, test method and marking of Wushu Taiji (Tai Chi) sword.

This document is applicable to the sword used for the Wushu (Chinese martial arts also known as Kung Fu) Taiji (Tai Chi) sport.

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 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 8124-3, *Safety of toys — Part 3: Migration of certain elements*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 10289, *Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates — Rating of test specimens and manufactured articles subjected to corrosion tests*

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 sword
apparatus used for practice and demonstration of Wushu Taiji sport

Note 1 to entry: See Figure 1.

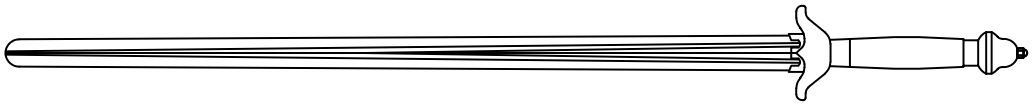
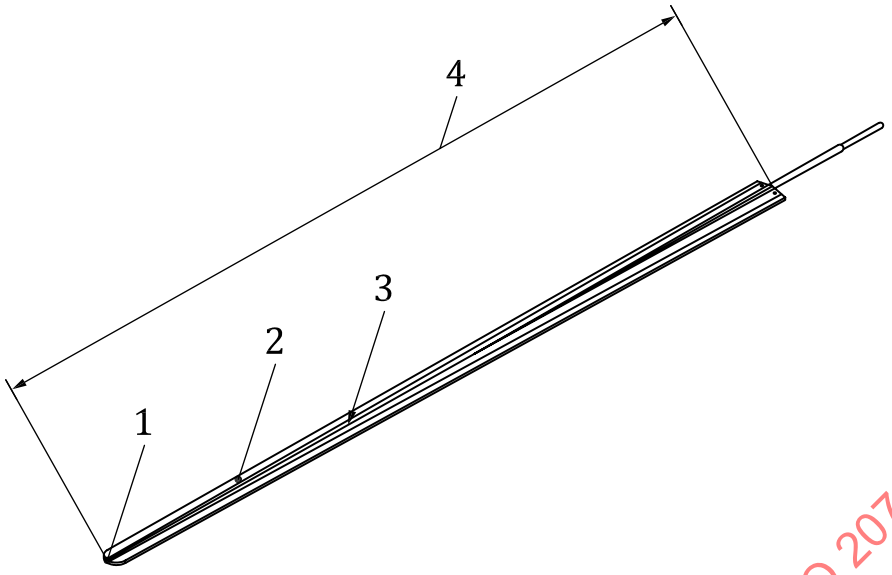


Figure 1 — Wushu Taiji sword

3.2
blade
part from tip to *guard* (3.3), including the edge, central ridge and tip

Note 1 to entry: See Figure 2.



Key

1 tip
2 edge
3 central ridge
4 blade

Figure 2 — Blade

3.3
guard
device assembled on the *hilt* (3.4) to protect hands

Note 1 to entry: See Figure 3.

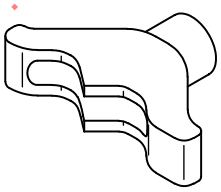


Figure 3 — Guard

3.4
hilt
part next to the *guard* (3.3) for the hand to hold the sword

Note 1 to entry: See Figure 4.

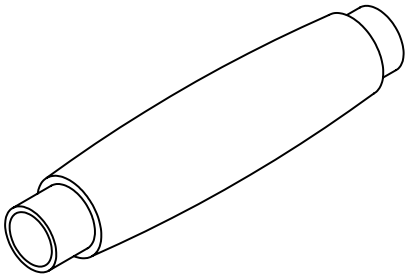


Figure 4 — Hilt

3.5
pommel
counterpart of the blade next to the hilt to fix the hilt

Note 1 to entry: See Figure 5.

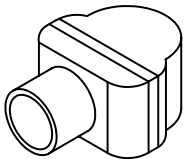
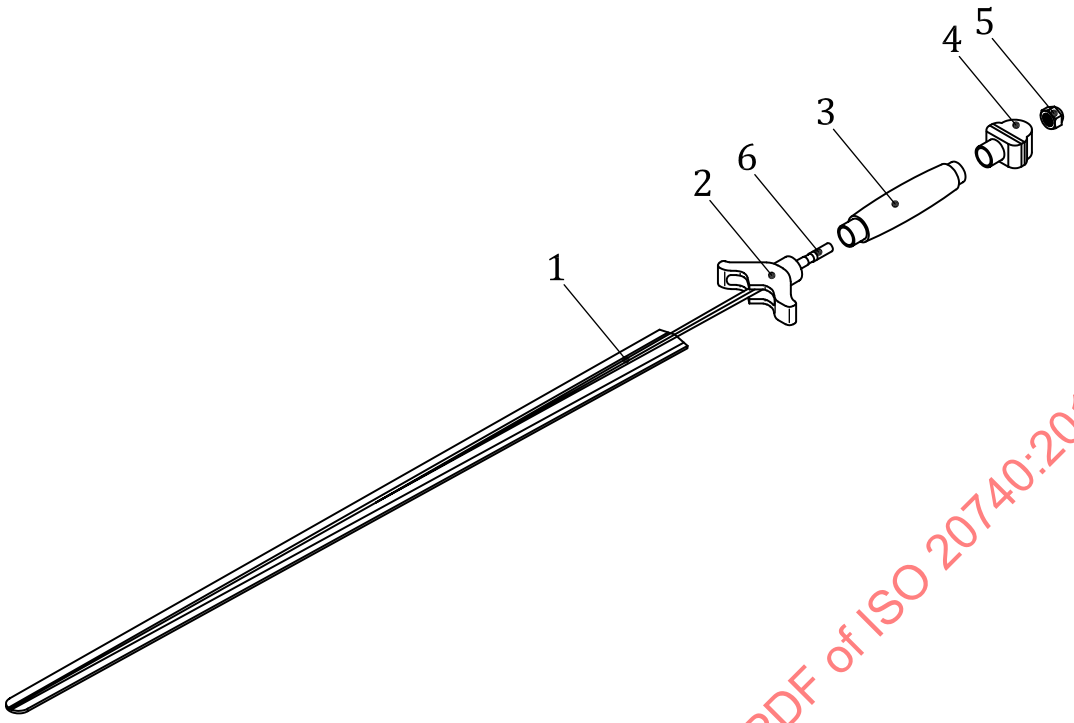


Figure 5 — Pommel

4 Structure

A Wushu Taiji sword is composed of pommel, hilt, guard and blade, as shown in Figure 6.



Key

1 blade
2 guard
3 hilt
4 pommel
5 screw-nut for fixing the bolt
6 bolt

Figure 6 — Structure of Wushu Taiji sword

5 Requirements

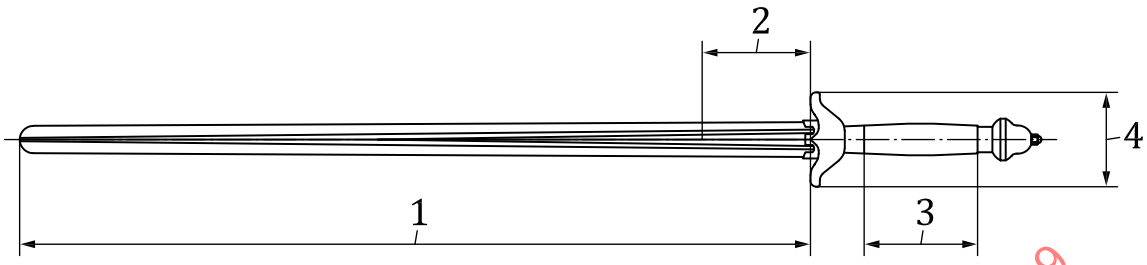
5.1 Materials

5.1.1 The blade can be made of manganese steel or stainless steel.

5.1.2 The hilt and scabbard can be made of wood.

5.2 Dimensions

5.2.1 Dimensions of the sword shall be according to Figure 7.



Key

1 blade length
2 distance between the guard and the point of balance (POB)
3 hilt length
4 guard width

Figure 7 — Dimensions of Wushu Taiji sword

5.2.2 The pommel shall be 45 mm to 50 mm long and 38 mm to 43 mm wide and 13 mm to 18 mm thick. The shape of the pommel shall be designed as shown in Figure 5.

5.2.3 The guard shall be 80 mm to 120 mm wide and 13 mm to 18 mm thick. The shape of the guard shall be designed as shown in Figure 3.

5.2.4 The blade shall be trapezoid and become narrower gradually from the end of the blade towards the tip, with the width of the blade end of 33 mm to 35 mm and that of the tip 22 mm to 24 mm.

5.2.5 The distance from the point of balance (POB) to the guard shall be 30 mm to 40 mm.

5.2.6 Deviations of the length of the blade and hilt shall be according to Table 1.

Table 1 — Deviations of length of the blade and hilt

Dimensions in mm

Sequence no.	Model no.	Length of the blade (±5)	Length of the hilt (±3)
1	1	700	105
2	2	720	105
3	3	740	105
4	4	760	105
5	5	780	110
6	6	800	110
7	7	820	110
8	8	860	120
9	9	900	120

5.3 Mass

The deviation of the mass of Wushu Taiji sword shall be according to Table 2.

Table 2 — Deviation of the mass of Wushu Taiji sword

Values in kg

Sequence no.	Model no.	Mass (±0,005)
1	1	0,400
2	2	0,410
3	3	0,420
4	4	0,440
5	5	0,460
6	6	0,490
7	7	0,520
8	8	0,550
9	9	0,590

5.4 Elasticity

After the test according to 7.3, the straightness of the blade shall be less than 2 mm.

5.5 Coating adhesion

After the test on the surface-treated sword according to 7.4, the blade and metallic decorative pieces shall be without flacking or cracking.

5.6 Safety

5.6.1 The blade shall be well rounded at tip, with the radius greater than or equal to 3 mm ($R \geq 3$ mm).

5.6.2 The blade edge, pommel, hilt, guard and metallic decorative pieces shall have a smooth surface without thorns or burrs.

5.6.3 Hazardous substances in the coatings on the scabbard and hilt shall be within the limits specified in Table 3.

Table 3 — Maximum limit of hazardous substances

Maximum limit of the elements (mg/kg)							
Cd	Pb	Cr	Hg	Sb	As	Ba	Se
≤ 75	≤ 90	≤ 60	≤ 0	≤ 60	≤ 25	≤ 1 000	≤ 500

5.6.4 The blade shall not be sharp, with the thickness of its end no less than 1,2 mm, that of its middle part no less than 0,7 mm and the tip no less than 0,2 mm.

5.7 Aspect

5.7.1 The surface roughness of blades shall be more than *Ra* 0,40 (according to ISO 4287).

5.7.2 The pommel, hilt, guard, blade and metallic decorative pieces shall have a smooth and delicate surface with no flaking, cracking or peeling.