



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS T 8125-5 : 2010
(JSAA/JSA)

**Protective clothing for users of hand-held
chain-saws — Part 5: Test methods and
performance requirements for protective
gaiters**

ICS 13.340.10;65.060.80

Reference number : JIS T 8125-5 : 2010 (E)

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Date of Establishment: 2010-05-25

Date of Public Notice in Official Gazette: 2010-05-25

Investigated by: Japanese Industrial Standards Committee
Standards Board
Technical Committee on Protective Equipment for
Occupation Safety

JIS T 8125-5: 2010, First English edition published in 2011-09

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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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Health, Labour and Welfare and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from Japan Safety Appliances Association (JSAA)/Japanese Standards Association (JSA), with a draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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JIS T 8125 consists of the following 6 parts under the general title “*Protective clothing for users of hand-held chain-saws*”:

Part 1 : Test rig driven by a flywheel for testing resistance to cutting by a chain-saw

Part 2 : Test methods and performance requirements for leg protectors

Part 3 : Test methods for footwear

Part 4 : Test methods and performance requirements for protective gloves

Part 5 : Test methods and performance requirements for protective gaiters

Part 6 : Test methods and performance requirements for upper body protectors

Protective clothing for users of hand-held chain-saws— Part 5: Test methods and performance requirements for protective gaiters

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of ISO 11393-5 published in 2001 with some modifications of the technical contents concerning the variety of usages in Japan and the quality improvement of protective gaiters.

The portions with dotted underlines in this Standard are the matters in which the contents of the corresponding International Standard have been modified. A list of modifications with explanations is given in Annex JA.

This Standard forms part of a series concerned with personal protective equipment designed to protect against the risks arising from the use of hand-held chain-saws.

No personal protective equipment can ensure a 100 % protection against cuffing from a hand-held chain-saw. Nevertheless, experience has shown that it is possible to design personal protective equipment which offers a certain degree of protection.

Different functional principles may be applied in order to give protection.

These include the following effects:

- a) chain slipping: the chain slips on the surface of protective materials, and it does not cut the human body;
- b) clogging: fibres, threads and other materials are drawn by the chain into the drive sprocket and block chain movement;
- c) chain braking: fibres and other materials have a high resistance to cutting and absorb rotational energy, thereby reducing the chain speed.

1 Scope

This Standard specifies requirements and the test methods to be used to assess the resistance of gaiters to cutting by hand-held chain-saws and other properties. A requirement and a test method for assessing the strength of underfoot straps of gaiters are also included.

This Standard is applicable to gaiters which are to be used in conjunction with safety footwear with a metallic toecap complying with JIS T 8101, because gaiters alone offer only partial protection against chain-saw cutting.

This Standard is not applicable to gaiters intended for use in situations where there is a significant risk of tripping such as tree climbing or in forests.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 11393-5 : 2001 *Protective clothing for users of hand-held chain-saws—Part 5: Test methods and performance requirements for protective gaiters* (MOD)

In addition, symbols, which denote the degree of correspondence in the contents between the relevant International Standard and JIS, are IDT (identical), MOD (modified), and NEQ (not equivalent) according to ISO/IEC Guide 21-1.

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 K 7215 *Testing methods for durometer hardness of plastics*

NOTE : Corresponding International Standard : ISO 868 *Plastics and ebonite—Determination of indentation hardness by means of a durometer (Shore hardness)* (MOD)

JIS L 1018 *Test methods for knitted fabrics*

NOTE : Corresponding International Standard : ISO 3175-2 *Textiles—Dry cleaning and finishing—Part 2: Procedures for tetrachloroethene* and ISO 6330 *Textiles—Domestic washing and drying procedures for textile testing* (Overall evaluation : MOD)

JIS S 5037 *Sizing system for shoes*

JIS T 8101 *Protective footwear*

NOTE : Corresponding International Standard : ISO 8782-2 *Safety, protective and occupational footwear for professional use—Part 2: Specification for safety footwear* (MOD)

JIS T 8125-1 *Protective clothing for users of hand-held chain-saws—Part 1: Test rig driven by a flywheel for testing resistance to cutting by a chain-saw*

NOTE : Corresponding International Standard : ISO 11393-1 *Protective clothing for users of hand-held chain-saws—Part 1: Test rig driven by a flywheel for testing resistance to cutting by a chain-saw* (MOD)

JIS T 8125-3 *Protective clothing for users of hand-held chain-saws—Part 3: Test methods for footwear*

NOTE : Corresponding International Standard : ISO 11393-3 *Protective clothing for users of hand-held chain-saws—Part 3: Test methods for footwear* (MOD)

3 Terms and definitions

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

3.1 gaiter

removable covering intended to protect the front part of the foot, ankle and lower leg against cutting by a hand-held chain-saw

3.2 protective material

material which is designed to protect the wearer against the cutting effect of a hand-held chain-saw

3.3 cut through

that the cutting length exceeds 10 mm in the protective material surface that is nearest to the body side under the cutting test of the protective material

NOTE : Suppose that a single-layer or multi-layer material specimen constitutes the finished product such as gaiter. Apply a working chain-saw to the specimen surface which is farthest from the wearer's body. When a chain-saw continues to cut the specimen layer, being decelerated and finally stops, it means that the cutting of over 10 mm is found on the surface opposite to the surface to which a chain-saw is applied (see JIS T 8125-1).

4 Requirements

4.1 Fasteners

4.1.1 General

Gaiter fasteners shall not be of touch and close type.

4.1.2 Underfoot straps

When tested in accordance with the procedure described in clause 7, each underfoot strap shall not fail at a force below 250 N, and the distance moved by the hook between loads of 25 N and 250 N shall be less than 50 mm.

NOTE : For products without the underfoot straps, this requirement is unnecessary.

4.2 Specified protective area

The protective material of the gaiter shall at least cover the area of the artificial boots (see 6.3.2.1) shown in figure 1.

- a) **horizontally**: from a line no more than 14 mm behind the end of the artificial boot, to two lines in the same vertical plane sited at least 80 mm along the surface of the artificial boot either side of the centreline of the front of the boot, measured at a height of (225 ± 2) mm above the lower surface of the artificial boot.
- b) **vertically**: from the line no more than 25 mm above the lower surface of the artificial boot to at least 225 mm above this line.