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(JSAA/JSA)

**Protective clothing for users of  
hand-held chain-saws—  
Part 2: Test methods and performance  
requirements for leg protectors**

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In the event of any doubts arising as to the contents,  
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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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Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Ministers and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

JIS T 8125 consists of the following 3 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*

# Protective clothing for users of hand-held chain-saws—

## Part 2: Test methods and performance requirements for leg protectors

### Introduction

This Japanese Industrial Standard has been prepared based on the first edition of ISO 11393-2 published in 1999 with some modifications of the technical contents to cope with the diverse use situations in Japan and the improvement of the product quality.

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 cutting 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.

These functional principles are as follows. Often more than one principle is applied.

- a) chain slipping: on contact the chain does not cut the material
- b) clogging: fibres are drawn by the chain into the drive sprocket and block chain movement
- c) chain braking: fibres have a high resistance to cutting and absorb rotational energy, thereby reducing the chain speed.

### 1 Scope

This Standard specifies the type, the requirements and test methods for leg protectors which offer protection against cutting from a hand-held chain-saw, including requirements for identification, marking and information for the user.

NOTE : The International Standard corresponding to this Standard is as follows.

ISO 11393-2:1999 *Protective clothing for users of hand-held chain-saws—  
Part 2: Test methods and performance requirements  
for leg protectors* (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.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. For standards with the year indication, only the edition of the indicated year shall apply but the revisions (including amendments) made thereafter shall not apply.

JIS L 1018: 1999 *Test methods for knitted fabrics*

NOTE : Corresponding International Standard : ISO 3175-1: 1998 *Textiles—Dry cleaning and finishing—Part 1: Method for assessing the cleanability of textiles and garments*, ISO 3175-2:1998 *Textiles—Dry cleaning and finishing—Part 2: Procedures for tetrachloroethene* and ISO 6330: 1984, *Textiles—Domestic washing and drying procedures for textile testing* (Overall evaluation: MOD)

JIS L 1096: 1999 *Testing methods for woven fabrics*

NOTE : Corresponding International Standard : ISO 5082:1982 *Textiles—Woven fabrics—Determination of breaking strength—Grab method* (MOD)

JIS L 1909: 2005 *Textiles—Determination of dimensional change*

NOTE : Corresponding International Standard : ISO 3759: 1994 *Textiles—Preparation, marking and measuring of fabric specimens and garments in tests for determination of dimensional change* and ISO 5077:1984, *Textiles—Determination of dimensional change in washing and drying* (MOD)

JIS T 8005: 2005 *Protective clothing—General requirements*

NOTE : Corresponding International Standard : ISO 13688: 1998 *Protective clothing—General requirements* (MOD)

JIS T 8125-1: 2008 *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: 1998 *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)

## 3 Terms and definitions

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

### 3.1 leg protectors

any type of protective garment which protects at least the specified protective area to the level of resistance specified within this Standard for the leg, for example, trousers, leggings, etc.

### 3.2 protective material

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

NOTE : This protective material may include the cloth of the garment.

### 3.3 protective coverage

area of the garment which is covered by protective material

NOTE : This coverage area is equal to or wider than the specified protective area described in 3.4.

### 3.4 specified protective area

specified protective coverage that is required according to the type of protective clothing

### 3.5 front (of a leg protector)

forward 50 % of the leg circumference

### 3.6 rear (of a leg protector)

backwards 50 % of the leg circumference

NOTE : It may be difficult to establish the front and the rear of a leg protector. It is nevertheless of great importance to establish the front and the rear before pretreatment and testing.

### 3.7 cut through

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

NOTE : Suppose that a sample consists of monolayer or two or more layers, and that it constitutes the end products, such as protection trousers, apply a moving saw chain against the sample surface that is outside a wearer's body. When a saw chain cuts the layer of a sample, slowing down and stops, it means that the cutting longer than 10 mm occurs between the surface on which the saw chain has been applied and the opposite surface (see JIS T 8125-1).

## 4 Types

### 4.1 Types of leg protectors

The types of leg protectors include type A, type B and type C. The specified protective area of each type is specified in 4.2, 4.3 and 4.4.

### 4.2 Type A

#### 4.2.1 Specified protective area for type A

The specified protective area for type A is described under a), b) and c) and is shown in figure 1.

- a) **Front** the specified protective area fully covers, on the outer side of the leg, the front of the garment from 50 mm above the lower end of the legs to 200 mm above the crotch. It is permitted to leave out protective material at the fly.
- b) **Rear, left leg** the specified protective area covers, on the outer side of the leg, a 50-mm wide strip extending from 50 mm above the lower end of the leg to 200 mm below the crotch and then tapering to zero at a height of 200 mm above the crotch.
- c) **Rear, right leg** the specified protective area covers, on the inner side of the leg, a 50-mm wide strip from 50 mm from the bottom of the leg to 50 mm below the crotch.

#### 4.2.2 Other design requirements for type A

The leg protectors shall have a specified protective area as identified in 4.2.1. Moreover, they shall cylindrically enclose both the front and the rear of the user's leg from 50 mm below the crotch to the bottom end of the legs of the garment. The bottom end of the leg of each garment shall be designed to facilitate easy overlap of protective material with safety footwear worn by the user.

Unit : mm

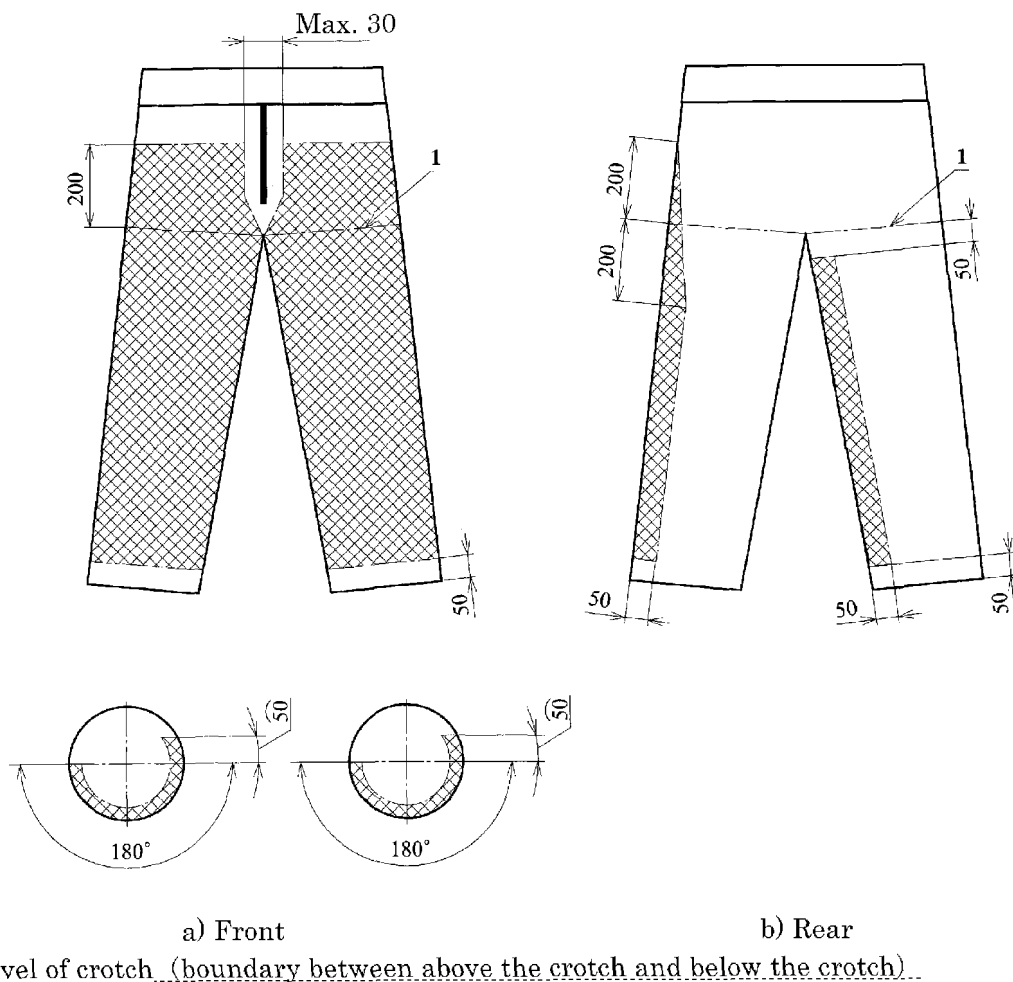


Figure 1 Specified protective area, type A