

Australian/New Zealand Standard<sup>®</sup>

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**Protective clothing for users of  
hand-held chainsaws**

**Part 1: Test rig for testing  
resistance to cutting by a chainsaw**

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[ EN title: Protective clothing for users of hand-held chain saws,  
Part 1: Test rig for testing resistance to cutting by a chain saw]

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF/4, Occupational Protective Clothing. It was approved on behalf of the Council of Standards Australia on 31 December 1996 and on behalf of the Council of Standards New Zealand on 28 January 1997. It was published on 5 March 1997.

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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF/4, Occupational Protective Clothing.

The objective of this Standard is to provide manufacturers of protective clothing for users of hand-held chainsaws with the requirements of a test rig for testing the resistance to cutting by a chainsaw.

The Standard is identical with and has been reproduced from EN 381-1:1993, *Protective clothing for users of hand-held chain saws, Part 1: Test rig for testing resistance to cutting by a chain saw*.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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References to international Standards should be replaced by equivalent Australian, New Zealand or Australian/New Zealand Standards, as follows:

<i>Reference to international Standard</i>	<i>Australian, New Zealand or Australian/ New Zealand Standard</i>	
ISO		
4915	Textiles—Stitch types— Classification and terminology	—
3386	Polymeric materials, cellular flexible—Determination of stress- strain characteristics in compression	—
3386-1	Part 1: Low-density materials	—
EN		AS/NZS
381	Protective clothing for users of hand- held chain saws	4453
381-2	Part 2: Test method for leg protectors	4453.2
381-3	Part 3: Test method for boots	—
381-4	Part 4: Test method for chainsaw protective gloves	—
381-5	Part 5: Requirements for leg protectors	4453.3
381-6	Part 6: Requirements for boots	—
381-7	Part 7: Requirements for chainsaw protective gloves	—
381-8	Part 8: Test method for chainsaw protective gaiters	—
381-9	Part 9: Requirements for chainsaw protective gaiters	—
		Part 3: Protective legwear

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## AUSTRALIAN/NEW ZEALAND STANDARD

# Protective clothing for users of hand-held chainsaws

## Part 1:

### Test rig for testing resistance to cutting by a chainsaw

#### 0 Introduction

This European 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 protective equipment can ensure 100 % protection against cutting from a hand-held chain saw.

Nevertheless, experience has shown that it is possible to design protective equipment which offers a certain degree of protection. Different functional principles may be applied in order to give protection. These include:

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

Often more than one principle is applied.

#### 1 Scope

This first Part of this European Standard specifies the test rig to be used to assess the resistance of personal protective equipment to cutting by hand-held chain saws. This Part also describes the calibration procedure.

#### 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

prEN 381-2	<i>Protective clothing for users of hand-held chainsaws —</i>
	<i>Part 2 : Test method for leg protection</i>
prEN 381-3	<i>Part 3 : Test method for boots</i>
prEN 381-4	<i>Part 4: Test method for chainsaw protective gloves</i>
prEN 381-5	<i>Part 5 : Requirements for leg protection</i>
prEN 381-6	<i>Part 6 : Requirements for boots</i>
prEN 381-7	<i>Part 7 : Requirements for chainsaw protective gloves</i>
prEN 381-8	<i>Part 8 : Test method for chainsaw protective gaiters</i>
prEN 381-9	<i>Part 9 : Requirements for chainsaw protective gaiters</i>
ISO 4915 : 1991	<i>Textiles — Stitch types — Classification and terminology</i>
ISO 3386-1: 1986	<i>Polymeric materials, cellular flexible — Determination of stress-strain characteristics in compression</i>
	<i>Part 1: Low-density materials</i>

#### 3 Definitions

For the purposes of this standard the following definitions apply.

##### 3.1 chain saw

Saw with teeth on an endless chain.

##### 3.2 resistance to cutting

A general term for the various ways in which a protective material can reject or decelerate the chain of a chain saw. It is measured by applying a moving saw chain with a certain chain speed and energy and studying whether the chain cuts through.

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