

Australian/New Zealand Standard

Occupational protective gloves

**Part 7.3: Protection against cuts and
stabs by hand knives—Impact cut test
for fabric, leather and other materials**

AS/NZS 2161.7.3:2005

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RECONFIRMATION

OF

AS/NZS 2161.7.3:2005

Occupational protective gloves

Part 7.3: Protection against cuts and stabs by hand knives—Impact cut test for fabric, leather and other materials

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Australian/New Zealand Standard[™]

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-023, Occupational Protective Gloves.

The objective of this Standard is to specify an impact cut test for use on fabrics, leather and other materials used in protective clothing materials, gloves and arm guards.

This Standard is identical with, and has been reproduced from, ISO 13999-3:2002, *Protective clothing—Gloves and arm guards protecting against cuts and stabs by hand knives, Part 3: Impact cut test for fabric, leather and other materials*.

As this Standard is reproduced from an ISO Standard, the following applies:

- (a) Its number appears on the cover and title page while the ISO Standard number appears only on the cover.
- (b) In the source text ‘this part of ISO 13999’ should read ‘this Australian/New Zealand Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

Guidance for the selection, care and use of occupational protective gloves is not covered by this Standard but is provided in a separate Standard, AS/NZS 2161.1, *Occupational protective gloves, Part 1: Selection, care and use*.

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

<i>Reference to International Standard or other publication</i>		<i>Joint Australian/New Zealand Standard</i>	
ISO		AS/NZS	
13688	Protective clothing—General requirements	4501 4501.2	Occupational protective clothing Part 2: General requirements
13999	Protective clothing—Gloves and arm guards protecting against cuts and stabs by hand knives	2161 2161.7.1	Occupational protective gloves Part 7.1: Protection against cuts and stabs by hand knives—
13999-1	Part 1: Chain-mail gloves and arm guards		Chainmail gloves and arm guards
EN			
388	Protective gloves against mechanical risks	2161 2161.3	Occupational protective gloves Part 3: Protection against mechanical risks
420	General requirements for gloves	2161.2	General requirements

NOTE: Any international Standards not listed have not been adopted as Australian or Australian/New Zealand Standards.

This Standard is Part 7.3 of the following series:

AS/NZS	
2161	Occupational protective gloves
2161.7.1	Part 7.1: Protection against cuts and stabs by hand knives—Chainmail gloves and arm guards
2161.7.2	Part 7.2: Protection against cuts and stabs by hand knives—Gloves and arm guards made of material other than chainmail
2161.7.3	Part 7.3: Protection against cuts and stabs by hand knives—Impact cut test for fabric, leather and other materials

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

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INTRODUCTION

This test is based on the impact penetration test given in ISO 13998. It differs in that the blade-holding block and blade weigh 110 g rather than 1 000 g. The test specimen support is also changed to suit the testing of fabric, leather and other materials. The test is designed particularly to assess the stab resistance of materials for gloves and arm guards. The test is also suitable for assessing gloves exposed to severe abrasion and cutting threats such as motorcyclists' gloves, working gloves for handling concrete blocks or razor wire, or protective leggings and trousers for refuse collectors. Severe abrasion is a process involving multiple cuts and this test is a good indicator of abrasion resistance of the whole thickness of a material or sequence of materials.

It has been assumed in the drafting of this part of ISO 13999 that the execution of its provisions is entrusted to appropriately qualified and experienced people, for whose guidance it has been prepared. The apparatus described should only be used by competent persons and requires safeguards to prevent, as far as is reasonably practicable, injury to the operator and other persons.

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AUSTRALIAN/NEW ZEALAND STANDARD

Occupational protective gloves

Part 7.3:

Protection against cuts and stabs by hand knives—Impact cut test for fabric, leather and other materials

1 Scope

This part of ISO 13999 specifies an impact cut test for use on fabric, leather and other materials used in protective clothing, gloves and arm guards.

Annex A of this part of ISO 13999 gives recommendations for the specification of impact cut tests on materials and products such as gloves and arm guards and gives the list of information which should be specified in the product standard in order to be able to apply this test.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 13999. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 13999 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 13999-1, *Protective clothing — Gloves and arm guards protecting against cuts and stabs by hand knives — Part 1: Chain-mail gloves and arm guards*

EN 388:1994, *Protective gloves against mechanical risks*

3 Terms and definitions

For the purposes of this part of ISO 13999, the terms and definitions given in ISO 13999-1 apply.

4 Principle

This test assesses the resistance of fabric, leather and other materials used in protective clothing, gloves and arm guards to cutting by a sharp, straight knife-edge. The test specimen is tested by impact of a standard knife blade held in a guided falling block. The length of the cut produced by the particular impact energy is proportional to the depth of penetration of the knife, which is easily measured.