AS 2161.6—2003
ISO 15383:2001

Australian Standard™

Occupational protective gloves

Part 6: Protective gloves for firefighters—Laboratory test methods and performance requirements

Standards Australia

This Australian Standard was prepared by Committee SF-023, Occupational Protective Gloves. It was approved on behalf of the Council of Standards Australia on 11 August 2003 and published on 18 September 2003.

The following are represented on Committee SF-023:

Australian Fire Authorities Council

Australian Chamber of Commerce and Industry

Bureau of Steel Manufacturers of Australia

Department of Consumer & Employment Protection, WorkSafe Division, WA

Griffith University

Telstra Corporation

United Firefighters Union of Australia

The University of New South Wales

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PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee SF-023, Occupational Protective Gloves to supersede AS 2161.6(Int)—2001. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

This Standard is identical with and has been reproduced from ISO 15383:2001. *Protective gloves for firefighters—Laboratory test methods and performance requirements* published by the International Organization for Standardization (ISO).

For the purpose of this Standard, the ISO text should be modified as follows:

Terminology—the words 'this Australian Standard' should replace the words 'this International Standard' wherever they appear.

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

Reference to International Standard or other Publication		*Australian or Joint Australian/New Zealand Standard*	
ISO		AS	
139	Textiles—Standard atmospheres for conditioning and testing	2001 2001.1	Methods of test for textiles Part 1: Conditioning procedures
811	Textiles—Determination of resistance to water penetration—Hydrostatic pressure test	2001.2.17	Part 2.17: Physical tests—Determination of resistance of fabrics to water penetration— Hydrostatic pressure test
6330	Textiles—Domestic washing and drying procedures for textile testing	—	
6942	Protective clothing—Protection against heat and fire—Evaluation of materials and material assemblies when exposed to a source of radiant heat	—	
ISO		AS/NZS	
9151	Protective clothing against heat and flame—Determination of heat transmission on exposure to flame	4502	Methods for evaluating clothing for protection against heat and fire
		4502.2	Part 2: Evaluation of heat transmission of materials and material assemblies when exposed to flame

ISO		AS/NZS	
12127	Clothing for protection against heat and flame—Determination of contact heat transmission through protective clothing or constituent materials	4502.5	Part 5: Evaluation of the contact heat transmission through material and material assemblies
12947	Textiles—Determination of the abrasion resistance of fabrics by the Martindale method	—	
12947-4	Part 4: Assessment of appearance change	—	
13688	Protective clothing—General requirements	4501 4501.2	Occupational protective clothing Part 2: General requirements
13994	Clothing for protection against liquid chemicals—Determination of the resistance of protective clothing materials to penetration by liquids under pressure	—	
13996	Protective clothing—Mechanical properties—Determination of resistance to puncture	—	
13997	Protective clothing—Mechanical properties—Determination of resistance to cutting by sharp objects	—	
15025	Protective clothing—Protection against heat and flame—Method of test for limited flame spread	—	
17493	Clothing and equipment for protection against heat—Test method for convective heat resistance using a hot air circulating oven	—	
EN			
388	Protective gloves against mechanical risks	2161 2161.3	Occupational protective gloves Part 3: Protection against mechanical risks
420	General requirements for gloves	—	

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

CONTENTS

INTRODUCTION

This International Standard specifies three types of gloves with different performance requirements. Type 1 gloves provide the lowest level of performance. Criteria for these gloves were partly based on requirements considered suitable for wildland fire fighting with certain requirements consistent with the same level of protection provided by clothing as specified in ISO 15384. Type 2 gloves provide an intermediate level of performance. The performance requirements for Type 2 gloves are based partly on EN 659 but uses some of the criteria from EN 469 for thermal and heat protection. Type 3 gloves provide the highest level of performance. The performance requirements for Type 3 gloves have been adapted from NFPA 1971. Three levels of performance are established for all performance requirements except for flame resistance and ergonomic requirements. In some cases, two of the levels require the same performance. The intent of this International Standard is to specify a level of glove performance consistent with the performance of the garments worn, where practical.

This International Standard also provides guidance on selection of firefighter's protective gloves and considerations for conducting a risk assessment of protective gloves. The selection of firefighter gloves should be based on a risk assessment.

Nothing in this International Standard is intended to restrict any jurisdiction, purchaser or manufacturer from exceeding these minimum requirements.

A list of standards related to this International Standard is given in the Bibliography.

NOTES

AUSTRALIAN STANDARD

Occupational protective gloves

Part 6:
Protective gloves for firefighters—Laboratory test methods and performance requirements

1 Scope

This International Standard specifies test methods and minimum requirements for protective gloves to be worn during fire fighting and associated activities where there is a risk of heat and/or flame.

The purpose of this International Standard is to provide minimum performance requirements for protective gloves designed to protect against injury in fire fighting operations.

This International Standard covers the general glove design, the minimum performance levels of the materials used and the methods of test for determining these performance levels. With the exception of flame resistance and ergonomic requirements, this International Standard establishes three levels of performance for all other performance requirements. Type 3 gloves provide a higher level of thermal insulation and physical protection, and require liquid penetration resistance (including synthetic blood) as compared to Type 2 gloves. Type 1 gloves are intended to provide minimum requirements for gloves in any fire fighting application, such as for wildland fire fighting. Annex E provides a comparison of the performance requirements for all three glove types.

This International Standard does not cover special gloves for use in other high risk situations such as specialized fire fighting. It does not cover protection for the head, torso, arms, legs and feet or protection of the hands against other hazards, e.g. chemical, biological, radiation and electrical hazards, except for limited, accidental exposure to fireground chemicals and contaminated blood or body fluids (Type 3 gloves). These aspects may be dealt with in other standards.

Selection of the appropriate system of clothing, including gloves, is dependant on carrying out an effective risk assessment which identifies the hazards to be faced, evaluates the likelihood of those hazards and provides the means of reducing or eliminating these hazards. Guidelines for conducting a risk assessment and some factors for consideration are included in annex D.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 139, *Textiles — Standard atmospheres for conditioning and testing*.

ISO 811, *Textile fabrics — Determination of resistance to water penetration — Hydrostatic pressure test*.

ISO 6330: 2000, *Textiles — Domestic washing and drying procedures for textile testing*.

ISO 6942:2002, *Protective clothing — Protection against heat and fire — Method of test: Evaluation of materials and material assemblies when exposed to a source of radiant heat*.