

Australian/New Zealand Standard™

**Protective clothing for firefighters—
Requirements and test methods for
protective clothing used for structural
firefighting**



AS/NZS 4967:2009

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF-049, Firefighters Personal Protective Equipment. It was approved on behalf of the Council of Standards Australia on 16 October 2009 and on behalf of the Council of Standards New Zealand on 27 November 2009.
This Standard was published on 18 December 2009.

The following are represented on Committee SF-049:

Association of Accredited Certification Bodies
Australasian Fire & Emergency Services Authorities Council
Australian Chamber of Commerce and Industry
Australian Industry Group
CSIRO Textile and Fibre Technology
Certification Interests (Australia)
Council of Textile and Fashion Industries of Australia
Department of Defence (Australia)
Footwear Manufacturers Association of Australia
NSW Rural Fire Service Association
New Zealand Fire Service
New Zealand Footwear Industry Association
New Zealand Leather & Shoe Research Association
New Zealand Manufacturing Interests
New Zealand Professional Firefighters Union
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This Standard was issued in draft form for comment as DR 09001.

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Originated as AS 4967(Int)—2001.
Previous edition AS 4967—2006.
Jointly revised and designated as AS/NZS 4697:2009.
Reissued incorporating Amendment No. 1 (August 2010).

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Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-049, Firefighters Personal Protective Equipment to supersede AS 4967—2006. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as a joint Australian/New Zealand Standard.

This Standard incorporates Amendment No. 1 (August 2010). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

Changes to this edition include:

- (a) Replacement of references to EN 366 with ISO 6942.
- (b) Replacement of references to EN 367 with ISO 9151.
- (c) Update of requirements for penetration by liquids, including addition of o-xylene and replacement of the test method of EN 368 with that of AS/NZS ISO 6530.

This Standard is based on ISO 11613:1999, *Protective clothing for firefighters—Laboratory test methods and performance requirements*, but has been extensively re-written to suit Australian and New Zealand conditions.

The Committee is committed to the development of a standard with a single level of protection that ensures a minimum safety level. It is envisaged that this would be achieved at the next revision and will form the basis an Australian/New Zealand response to ISO 11613, which was in the process of revision at the time of publication of this Standard.

In the longer term, the Committee is committed to developing a single standard for all items of personal protective equipment used for structural firefighting.

AS/NZS 4360*, *Risk management* should be referred to when references to risk assessments are made.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of this Standard.

* Has been superseded by AS/NZS ISO 31000, *Risk management—Principles and guidelines*.

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FOREWORD

Whilst the command and control procedures employed, the tactics used and the duties and responsibilities of firefighters may vary from one jurisdiction to another, in general terms, the objectives of a firefighter on reaching an incident can be summarized as follows:

- (a) The saving of life and provision of humanitarian services.
- (b) The prevention or minimization of damage to property.
- (c) The prevention or minimization of damage to the environment.

The function of personal protective equipment (PPE) is to protect the firefighter whilst enabling the firefighter to achieve these objectives. In addition, in emergency situations where it is impossible to achieve the objectives, the PPE should, as far as reasonably practical, safeguard the firefighter, allowing the firefighter to escape safely to a place of safety. This Standard establishes minimum requirements for structural firefighting protective ensembles and ensemble elements designed to provide firefighting personnel with limited protection from thermal, physical and environment hazards encountered during structural firefighting operations.

Employers have a responsibility to carry out a risk assessment before deciding on the type of PPE that is most suitable to protect the personnel under their control in their 'work place'. The duties and responsibilities of firefighters should be taken into account when assessing the risk and the appropriate PPE selected using the Standards required. In this way, operational procedures and different concepts of safety will both play a part in leading to the levels of performance chosen. It must be remembered that risk assessments are a starting point for action, not an objective in themselves.

Additional PPE to protect the head, face, hands and feet of firefighters should also be worn along with appropriate respiratory protection, where necessary. Currently, the relevant Standards for this PPE are as follows:

- (i) Head—AS/NZS 4067.
- (ii) Hands—AS/NZS 2161.
- (iii) Feet—AS/NZS 4821.
- (iv) Respiratory protection—AS/NZS 1716.

The specified controlled laboratory tests used to determine compliance with the performance requirements of this Standard do not replicate the situations to which firefighting personnel may be, exposed. During an incident, hazards other than those against which clothing to this Standard is intended to protect may be encountered, e.g. chemical, biological, radiation or electrical. If the risk assessment identifies that exposure to such hazards is likely, protection by more appropriate PPE may be required either instead of or in addition to the protective clothing covered by this Standard.

It is essential that firefighters are trained in the use, care and maintenance of all PPE. This training should include an understanding of its limitations which includes the importance of removing PPE as soon as conditions allow after an incident, mainly for heat stress/physiological reasons.

Contamination or degradation of protective clothing will affect its performance. Protective clothing should be cleaned in accordance with the manufacturer's recommended instructions. All repairs or alterations to the clothing should only be carried out by qualified personnel in accordance with the manufacturer's instructions.

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

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Protective clothing for firefighters—Requirements and test methods for protective clothing used for structural firefighting**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the minimum requirements and test methods for assessing protective clothing that is intended to be worn whilst engaged in interior attack, structural firefighting and associated activities where there is a risk of exposure to heat and/or flame.

1.2 OBJECTIVE

The objective of this Standard is to provide manufacturers and suppliers with a clear statement of the minimum requirements for structural firefighters' apparel.

1.3 APPLICATION

This Standard covers the general clothing design, the minimum performance requirements of the materials used, and the methods of test for determining these performance levels.

This Standard does not cover special clothing for use in other high risk situations such as specialized firefighting, or clothing for use in long term firefighting operations in high ambient temperature, e.g. brush, wildland, or forest firefighting. It does not address protection for the head, hands and feet or protection against other hazards, e.g. chemical, biological, radiation and electrical hazards. These aspects may be dealt with in other Standards.

1.4 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

2001 Methods of test for textiles

2001.2.25.2 Part 2.25.2: Physical tests—Determination of the abrasion resistance of fabrics by the Martindale method—Determination of specimen breakdown

2001.5.4 Part 5.4: Dimensional change—Domestic washing and drying procedures for textile testing (ISO 6330:2000, MOD)

AS ISO/IEC

17025 General requirements for the competence of testing and calibration laboratories

AS/NZS

1906 Retroreflective materials and devices for road traffic control purposes

1906.1 Part 1: Retroreflective materials

1957 Textiles—Care labelling

4360* Risk management

* Has been superseded by AS/NZS ISO 31000, *Risk management—Principles and guidelines*.