

Australian/New Zealand Standard™

Personal eye protection

Part 1: Eye and face protectors for occupational applications



AS/NZS 1337.1:2010

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF-006, Eye and Face Protection. It was approved on behalf of the Council of Standards Australia on 29 March 2010 and by the New Zealand Standards Approval Board on 9 April 2010.
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The following are represented on Committee SF-006:

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Australasian Fire Authorities Council
Australian Chamber of Commerce and Industry
Australian Dispensing Opticians Association
Australian Industry Group
Guild of Dispensing Opticians, Australia
Human Factors and Ergonomics Society of Australia
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New Zealand Employers and Manufacturers Association
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-006, Eye and Face Protection, to supersede part of AS/NZS 1337:1992, *Eye protectors for industrial applications*. It has been renumbered as AS/NZS 1337.1, as it is Part 1 of a series pertaining to personal eye protection, some of which have already been published.

This Standard incorporates Amendment No. 1 (April 2012) and Amendment No. 2 (March 2018). 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.

The objective of this Standard is to provide tests and requirements for eye and face protectors to be used occupationally.

The objective of this revision is to align the Standard more closely with other published Standards including CEN Standards pending the development of equivalent ISO Standards. It is planned to eventually adopt an ISO Standard as a Joint Australian/New Zealand Standard.

Accordingly, the Committee has decided to retain both the 'drop-ball' (Appendix K) and the 'ballistic' (Appendix L) methods for determining low impact resistance in order to maintain consistency with existing CEN Standards. The use of the term 'ocular/s' to replace the term 'lens/es' is to come in line with international terminology and refers to the use of non prescription products. The term 'lens/es' (used in AS/NZS 1337.6) refers to prescription spectacle products.

It is noted that the ISO/TC 94 SC 6 Committee on Eye and Face Protection is developing requirements for 'resistance to ageing' including resistance to thermal exposure, ultraviolet radiation and corrosion. Over time, Committee SF-006 expects to introduce similar requirements in a future edition of this Standard.

Members of Committee SF-006 have actively participated in ISO/TC 94 SC 6 and are aware that issues of eye coverage, protection area and field of view that are not adequately covered in this Standard are also under consideration in ISO. They are not, as yet, developed to a useable stage. They will be considered in a future revision of the Standard.

The data for the spectral energy distribution of incandescent traffic signals for the calculation of relative visual attenuation for signal light detection (Q) are from actual measurements on modern traffic signals that comply with ISO/CIE 16508:1999, *Road traffic lights—Photometric properties of 200 mm roundel signals*. The calculation is the same as in AS/NZS 1067:2003, *Sunglasses and fashion spectacles*, but the data are different as the AS/NZS 1067:2003 data represent older technology. The same data has been provided to ISO TC 94 SC 6 and will be used in the preparation of the ISO sunglass standard, in the first instance. Modern traffic signalling practice is moving rapidly to light emitting diode technology. Data is also provided for modern LED signals also complying with ISO/CIE 16508:1999. In this edition of the Standard the incandescent data are to be used but in future revisions of applicable standards (AS/NZS and ISO standards) it is intended that the LED data will become used. These data are provided at this stage to allow manufacturers to prepare for the changes. The minimum requirements for the Q values are consistent with EN 167, *Personal eye-protection—Optical test methods*. The minimum spectral transmittance lower wavelength limit has been set at 470 nm. AS/NZS 1067:2003 has 450 nm and EN 167 and EN 1836, *Personal eye-protection—Sunglasses and sunglare filters for general use and filters for direct observation of the sun*, have 500 nm. There is an agreement at ISO/TC 94 SC 6 for 475 nm in the sunglass standard.

Appendices for testing and calculation of transmittance and coloration have been drafted with reference to AS/NZS 1067:2003 in order to maintain consistency of methods and values.

It should be recognized that complete protection for the eye cannot be provided solely by the use of eye protectors or other personal protective equipment (ppe). Relevant factors for a particular application should be considered in the choice of the correct ppe to provide the maximum possible protection. AS/NZS 1336, *Recommended practices for occupational eye protection*, should be consulted for the appropriate measures to be taken into account.

The material and optical requirements described in this Standard maintain uniformity (where appropriate) with the following Standards:

AS

1609 Eye protectors for motor cyclists and racing car drivers

A1

AS/NZS ISO

21987 Ophthalmic optics—Mounted spectacle lenses

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 a Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies minimum requirements for non-prescription eye and face protectors and associated oculars. They are designed to provide protection for the eyes and faces of persons against common occupational hazards such as flying particles and fragments, dusts, splashing materials and molten metals, harmful gases, vapours and aerosols. Requirements for optical qualities and low, medium, high and very high impact resistance are given and appendices describing appropriate test methods are included in this Standard.

Requirements for prescription-eye protectors against low and medium impact are given in AS/NZS 1337.6. Requirements for eye protectors against laser radiation are given in AS/NZS 1337, Parts 4 and 5.

The aim of this Standard is to assist in the provision of safe, efficient and comfortable vision in the occupational situation, including consideration of the need for protection against sunglare and optical radiation in the natural environment.

NOTE: The Standard does not apply to filter oculars for protection against optical radiations generated by industrial processes, which are dealt with in AS/NZS 1338.

1.2 APPLICATION

Oculars for eye and face protectors shall comply with the requirements of Section 2.

Assembled eye protectors shall comply with the requirements of Section 3, and if intended for use in welding and allied operations, with Section 5.

NOTE: Where eye and face protection is incorporated in protective equipment, such as a hood or respirator, the relevant requirements of this Standard apply to the components affording eye and face protection.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1152 Specifications for test sieves

AS/NZS

1337 Personal eye protection

1337.0 Part 0: Eye and face protection—Vocabulary (ISO 4007:2012, MOD)

1337.4 Part 4: Filters and eye-protectors against laser radiation (laser eye-protectors)

1337.5 Part 5: Eye-protectors for adjustment work on lasers and laser systems (laser adjustment eye-protectors)

1337.6 Part 6: Prescription eye protectors against low and medium impact

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