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Australian Standard 1337—1981

EYE PROTECTORS FOR INDUSTRIAL APPLICATIONS

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STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Chamber of Commerce

Australian Council of Trade Unions

Australian Medical Association

Australian Welding Institute

Bureau of Steel Manufacturers

Confederation of Australian Industry

Department of Defence

Department of Health

Department of Industrial Relations, N.S.W.

Department of Labour and Industry, Vic.

Department of Labour and Industry, W.A.

Department of Labour Relations, Qld

Department of Science and Technology

Electricity Supply Association of Australia

Health Commission of New South Wales

Metal Trades Industry Association of Australia

National Safety Council of Australia

Optical Distributors and Manufacturers Association of Australia

Railways of Australia Committee

Royal Australian Chemical Institute

University of New South Wales

Victorian College of Optometry, University of Melbourne

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AUSTRALIAN STANDARD

EYE PROTECTORS FOR INDUSTRIAL APPLICATIONS

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STANDARDS ASSOCIATION OF AUSTRALIA

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AMENDMENT No 1
to
AS 1337—1981
EYE PROTECTORS FOR INDUSTRIAL APPLICATIONS

SUMMARY: The following section of this standard is covered in this amendment: Appendix E.

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Page 18. Appendix E.

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Paragraph E3(b)—*delete* existing wording and *substitute:*

(b) *Oven.* A circulating air oven having a minimum volume of 0.06 m^3, capable of maintaining a temperature of $60 \pm 2°C$.

PREFACE

This edition of this standard was prepard by the Associations' Committee on Eye Protection at the request of the Safety Standards Board, to supersede the 1974 edition. It specifies requirements for eye protectors and their associated lenses, designed to protect the eyes against common industrial hazards.

This edition of the standard includes technical and editorial amendments identified as necessary during the application of the 1974 edition.

Requirements for optical qualities and mechanical strength are given and the standard includes appendices describing appropriate test methods.

To facilitiate the supply and replacement of lenses for eye protectors bearing the AS Mark, the requirements for lenses suitable for marking are set out in a separate Section.

It should be recognized that complete protection for the eyes cannot be provided solely by the use of eye protectors. Relevant factors for a particular application should be considered in the choosing of the correct eyewear to provide the maximum possible protection. AS 1336* should be consulted for the appropriate measures to be taken into account.

This standard does not apply to filters for protection against ultraviolet and infrared radiations. For details regarding such filters, reference should be made to AS 1338.

The material and optical requirements described in this standard maintain uniformity where appropriate with—

AS 1067 Sunglass Lenses*
AS 1609 Eye Protectors for Motor Cyclists and Racing Car Drivers
AS 2228 Spectacle Lenses

During the development of this edition of the standard, cognizance was taken of the work undertaken by the International Organization for Standardization through its Committee ISO/TC 94/SC 6—Personal Eye Protectors. Acknowledgement is made of the assistance received therefrom.

This standard requires reference to the following standards:

AS 1067	Sunglass Lenses*
AS 1152	Test Sieves
AS 1180	Methods of Test for Hose Made from Elastomeric Materials 1180.9A—Hardness of Vulcanized Rubbers of Standard Hardness (35 to 85 IRHD)
AS 1199	Sampling Procedures and Tables for Inspection by Attributes
AS 1336	Code of Practice for Industrial Eye Protection*
AS 1338	Filters for Eye Protectors
AS 1399	Guide to AS 1199, Sampling Procedures and Tables for Inspection by Attributes
AS 1680	Code of Practice for Interior Lighting and the Visual Environment
BS 2461	Gas Washing Bottles
BS 4727	Glossary of Electrotechnical, Power, Telecommuncation, Electronics, Lighting and Colour Terms Part 4:Group 01:1971 Radiation and Photometry

*In course of revision.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard for EYE PROTECTORS FOR INDUSTRIAL APPLICATIONS

SECTION 1. SCOPE, APPLICATION AND DEFINITIONS

1.1 SCOPE. This standard specifies requirements for eye protectors and associated lenses designed to provide protection for the eyes of persons in industrial undertakings against hazards such as flying particles and fragments, dusts, splashing materials and molten metals, harmful gases and vapours and aerosols. The standard does not apply to filter lenses for protection against harmful radiations, such lenses being covered in AS 1338.

1.2 APPLICATION. Lenses for eye protectors shall comply with the requirements of Section 2.

Eye protectors shall comply with the requirements of Section 3 or Section 4, as appropriate.

NOTE: Where eye protection is incorporated in protective equipment, such as a hood or respirator, the portion affording eye protection should comply with relevant requirements of this standard.

1.3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.3.1 Eye protector—a device which includes a lens or lenses worn in front of the eyes and intended to provide protection for the eyes.

1.3.2 Goggle designation—goggles are designated by the following types:

1.3.2.1 *Goggles*—an eye protector fitting the contour of the face and held in position by an adjustable headband.

1.3.2.2 *Eyecup goggles*—an eye protector consisting of two lenses mounted in cups supported by a flexible nose bridge and headband.

1.3.2.3 *Wide-vision goggles*—an eye protector in which the lens or lenses extend over the full width of the face, affording a large field of vision.

1.3.2.4 *Coverall goggles*—an eye protector designed to fit closely over vision-correcting spectacles.

1.3.3 Safety clip-ons—a pair of protective lenses designed to clip-on over the front of non-safety spectacles.

1.3.4 Welding helmet—a rigid eye protector which is worn by the operator to shield the eyes, face, forehead and front of the neck.

1.3.5 Welding handshield—a rigid eye protector which is held in the hand to shield the eyes, face, forehead and front of the neck.

1.3.6 Faceshield—a device which includes a transparent visor, supported in front of the face to shield the eyes, face, forehead and front of the neck.

1.3.7 Eyeshield—a transparent visor supported in front of the face to shield the eyes.

1.3.8 Hood—a device which covers the head and neck and which includes eye protection.

1.3.9 Safety spectacles—an eye protector with protective lenses mounted in spectacle-type frames, or integrally moulded into the frames with or without side shields, and held in position by the side arms.

1.3.10 Wire-mesh screen—a device which consists of woven metal gauze supported in front of the face and incorporates a transparent lens in front of the eyes.

1.3.11 Lens—

(a) *Unfitted lens*—an optical component in its finished state intended for fitting in an eye protector.

(b) *Fitted lens*—the optical component of an eye protector and fitted in the eye protector.

1.3.12 Filter—an optical material used to absorb and/or reflect harmful radiation emitted during welding and other industrial operations. It may be of plastics, solid glass, laminated construction or other suitable material.

1.3.13 Double glazed lenses—lenses consisting of two or more components separated by an air gap and with the normal line of sight passing through all the components.

1.3.14 Cover lens—a transparent cover used to protect the filter(s) against abrasion and weld spatter. It may be of plastics or any other suitable material.

1.3.15 Luminous transmittance—the ratio of the luminous flux transmitted by the filter to the incident luminous flux.

1.3.16 Refractive power—the property of a lens to diverge or converge rays of light expressed as the reciprocal of the focal length in metres.

NOTES:

1. The unit of measurement for refractive power is reciprocal metre (m^{-1}).
2. The former unit of measurement, i.e. dioptre, is extant in ophthalmology and optometry.
3. The power of a divergent lens is given a negative sign.

1.3.17 Prismatic power—the property of a lens to displace the image of an object expressed as 100 times the ratio of the apparent displacement of the object to the distance of the object from the lens.

NOTES:

1. Prismatic power is a dimensionless quantity.
2. The former unit of measurement of prismatic power, i.e. prism dioptre, is numerically equal and is extant in ophthalmology and optometry.