AS ISO 8624:2021
ISO 8624:2020

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Ophthalmic optics — Spectacle frames — Measuring system and vocabulary



AS ISO 8624:2021

This Australian Standard ® was prepared by MS-024, Optics and Ophthalmics. It was approved on behalf of the Council of Standards Australia on 06 September 2021.

This Standard was published on 17 September 2021.

The following are represented on Committee MS-024:

Australian Dispensing Opticians Association
Cornea & Contact Lens Society of Australia
Medical Technology Association of Australia
Optical Distributors and Manufacturers Association of Australia
Optometry Australia
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This Standard was issued in draft form for comment as DR AS ISO 8624:2021.

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ISBN 978 1 76113 505 7

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Originated as AS/NZS ISO 8624:2011.
Reissued and redesignated as AS ISO 8624:2011.
Second edition 2021.

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Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee MS-024, Optics and Ophthalmics, to supersede AS ISO 8624:2011, *Ophthalmic optics—Spectacle frames—Measuring system and terminology.*

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this document as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this document is to specify a measuring system for spectacle frames and related vocabulary. It is applicable to spectacle frames with fronts that are intended to be symmetrical.

This document is identical with, and has been reproduced from, ISO 8624:2020, *Ophthalmic optics — Spectacle frames — Measuring system and vocabulary.*

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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1) This clause contains the three most important dimensions for spectacle frames, horizontal boxed lens size, distance between lenses and overall length of side. Tolerances on these are specified in ISO 12870.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 7, *Ophthalmic optics and instruments*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 170, *Ophthalmic optics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 8624:2011), which has been technically revised. It also incorporates the Amendment ISO 8624:2011/Amd.1.

The main changes compared to the previous edition are as follows:

— the informative annex with its complementary definitions has been transferred to 3.2;

— minor asymmetry of only the nasal bearing surfaces has been included in this edition. Since such asymmetry does not affect the lens shapes, only the definition of bridge height is affected. See the explanation in 3.2.6, Note 2 to entry.

— the plane of the lens shape has been redefined and now relates to the orientation and position of the vertical centre line, in turn based on the apex of the groove in the frame and not a dummy lens;

— the definition of overall length of side for those without joints has been amended slightly, while the Figures now take account of the 3-dimensional nature of spectacle fronts where there is a significant face form angle;

— an informative annex (Annex A) has been added to discuss measurement of 3-dimensional spectacle frames.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Ophthalmic optics — Spectacle frames — Measuring system and vocabulary

1 Scope

This document specifies a measuring system for spectacle frames and related vocabulary. It is applicable to spectacle frames with fronts that are intended to be symmetrical.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 Principal terms of the boxed lens system[1)]

3.1.1
boxed lens system
system of measurement and definitions of spectacle frames based on rectangular boxes that circumscribe the lens shapes and that are used for the determination of the dimensions of the spectacle front and in which the upper tangent is both common to the right and left lens shapes and regarded as being horizontal

Note 1 to entry: In the case of spectacle frames having a significant *face form angle*, the line touching the uppermost edges of the right and left *lens shapes* shall be regarded as horizontal.

Note 2 to entry: For measurement of a lens aperture, the measurements should be taken as if projected onto the base of the rectangular box which is regarded as being tangential to the plane of the lens shape at its boxed centre. This plane is close to that formed by the upper and lower tangents to the *lens shape*. For frame measurements, the aperture is taken to be the size of the hypothetical lens that fits the frame. Measurements to the apex of the groove or equivalent can give slightly different values.

Note 3 to entry: Since the tangent common to the right and left *lens shapes* is regarded as being horizontal, the lines at right angles to it, e.g. the two sides of the box either side of the *lens shape*, are called "vertical". While the frame is worn, the horizontal lines will remain horizontal if the head is held erect, but the vertical lines will frequently not be vertical but, although in a vertical plane, will have their lower ends tipped in towards the cheeks (see the *as-worn pantoscopic angle* in ISO 13666).

3.1.2
boxed centre
C
intersection of the *horizontal centreline* (3.2.1) and *vertical centreline* (3.2.2) of the rectangular box that circumscribes the *lens shape* (3.2.10)

Note 1 to entry: See Figure 1.

1) This clause contains the three most important dimensions for spectacle frames, horizontal boxed lens size, distance between lenses and overall length of side. Tolerances on these are specified in ISO 12870.

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