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American National Standard

for Ophthalmics –

Nonprescription Sunglass and Fashion Eyewear Requirements

ANSI Z80.3-2018

Approved American National Standard
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American National Standard
for Ophthalmics –

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Secretariat

The Vision Council

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American National Standard

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Developed by

The Accredited Committee Z80 for Ophthalmic Standards

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Foreword (This foreword is not part of American National Standard ANSI Z80.3-2018.)

Summary of Changes to ANSI Z80.3 for 2018

This 2018 revision clarifies testing of photosensitive lenses, making requirements in this standard consistent with international standards.

Background and summary of past revisions for ANSI Z80.3

Changes made in 2015 include revised requirements for prism power and imbalance; clarification of luminous transmittance variations, tolerances, and requirements; updated requirements for frame flammability and new requirements for frame durability; and several new definitions and a new figure demonstrating assessment of cosmetic lens quality.

Changes made in 2010 were the addition of subclauses addressing resistance to radiation; revision of the photosensitive lens qualification test; addition of the definition of polarizing efficiency; correction of the equations for the calculation of mean transmittance; addition of country of origin labeling; and addition of an equation to the Notes under Table 5.

The purchasers and users of nonprescription sunglasses and fashion eyewear need to be assured of certain minimum levels of performance and quality in these products. These are either implicit expectations in the product performance, or safety. The purchaser of the product does not ordinarily have the means to properly assess these characteristics.

In order to accomplish these goals, it is necessary to establish commonly accepted definitions, equations, sources, and methodology so that manufacturers can produce products to meet the standard.

This American National Standard specifies impact-resistant characteristics; cosmetic, refractive, and transmittance properties of lenses; and the flammability and durability of frames and lenses.

Cosmetic, refractive, transmittance, and frame properties specified herein are intended as guidelines, and therefore they are subject to revision since there is a need to study further the validity of these property specifications as related to actual normal use requirements.

The Z80.3 Subcommittee was organized in December 1970 and had its first meeting on January 7, 1971. The committee usually meets formally twice per calendar year, and members review material by email, phone, or fax throughout the year. Working groups may be formed to investigate specific projects.

This standard contains one annex, which is informative and is not part of this standard.

Suggestions for improvement of this standard will be welcome. Suggestions should be sent to The Vision Council, 225 Reinekers Lane, Suite 700, Alexandria, VA 22314.

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This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee Z80 (ASC Z80). Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, ASC Z80 had the following members:

Thomas C. White, M.D., Chair
Neil Roché, Vice-Chair
William J. Benjamin, O.D., Secretary
Michael Vitale, Secretariat

Organization Represented	*Name of Representative*
Advanced Medical Technology Association	Michael Pfleger
American Academy of Ophthalmology	Thomas White
American Academy of Optometry	David Loshin
American Ceramic Society	Lyle Rubin
American Glaucoma Society	Steven Gedde
American Optometric Association	Karl Citek
American Society of Cataract and Refractive Surgery	Stephen Klyce
Contact Lens Institute	Stan Rogaski
Contact Lens Manufacturers Association	Martin Dalsing
Cornea Society	Michael Belin
Department of Veterans Affairs	John Townsend
Food & Drug Administration CDRH/ Division of Federal Agencies	Don Calogero
Individual	Ralph Stone
Johnson & Johnson Vision	Kendra Hileman
National Association of Optometrists & Opticians	Nick Mileti
Optical Laboratory Association	Steve Sutherlin
Opticians Association of America	Tom Hicks
Sunglass Association of America	Tibor Gross
The Vision Council	Michael Vitale
ISO TC 172/SC7	Michael Vitale

The Subcommittee on Nonprescription Eyewear, which developed this standard, received input and contributions for this revision from the following members:

Karl Citek, Chair

Lauren Bianchi
Nick Brown
William Brown
Carl Buckholt
Keith Cross
Alfredo Duenez
Tom Hicks
Daniel Lahousse
Adam Mancuso
Nick Mileti
Dale Pfriem
Neil Roché
Lyle Rubin
Daniel Simonetta
Rick Tinson
Neil Torgerson
Michael Vitale
Paul Wade
Richard Whitney
Greg Williams

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American National Standard
for Ophthalmics –

Nonprescription Sunglass and Fashion Eyewear Requirements

1 Scope and Purpose

1.1 Scope

This standard applies to all nonprescription sunglasses and fashion eyewear, normally used for casual, dress, and recreational purposes, having lenses of substantially plano power. This standard specifically excludes products covered by ANSI Z87.1, ANSI Z80.1, and those covered within the ASTM F08.57 committee. Sunglass needs for aphakics may not be met by this standard.

1.2 Purpose

The purpose of this standard is to establish standards for noncorrective (essentially plano power) lenses that are intended for attenuation of light and for fashion eyewear, and for the flammability and durability of frames and lenses. These products are commonly called sunglasses, and they are not designed to be industrial safety eyewear as defined in ANSI Z87.1, or to provide corrective prescriptions as defined in ANSI Z80.1, or to provide protection for selected sports as defined within ASTM F08.57 committee standards, or to provide protection when making direct observation of the sun, such as for viewing a partial or annular solar eclipse. Lenses covered by this standard are not intended for use under conditions of reduced illumination; however, variable tint lenses that fade to a luminous transmittance greater than 75% are covered. Lenses with less than 75% luminous transmittance anywhere on the lenses are not suitable for driving under low light conditions, such as but not limited to twilight or night.

2 Normative References

The following standards contain provisions that, through reference in this text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to apply the most recent editions of the standards indicated below.

ANSI Z80.1, *Ophthalmics – Prescription Ophthalmic Lenses – Recommendations*[1]

ANSI Z80.5, *Ophthalmics – Requirements for ophthalmic frames*[1]

ANSI Z80.17, *Focimeters*[1]

ANSI Z87.1, *Occupational and educational eye and face protection devices*[1]

[1] Available from the American National Standards Institute, 25 West 43rd Street, New York, NY 10036 (Website: webstore.ansi.org).