

AMERICAN NATIONAL STANDARD



*for Ophthalmics -
Requirements for Ophthalmic Frames*

ANSI[®]
Z80.5-2004
Revision of
ANSI Z80.5-1997

American National Standard
for Ophthalmics –

Requirements for Ophthalmic Frames

Secretariat

Information Technology Industry Council

Approved January 27, 2004

American National Standards Institute, Inc.

American National Standard

Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgement of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Developed by

The Accredited Committee Z80 for Ophthalmic Standards -

Optical Laboratories Association
Z80 Secretariat
P. O. Box 2000
Merrifield, VA 22116-2000

Published by

Optical Laboratories Association
P. O. Box 2000
Merrifield, VA 22116-2000

Copyright © 2004 by Optical Laboratories Association
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher.

Printed in the United States of America

Contents

	Page
Foreword	ii
1 Scope and purpose	1
2 Normative references	1
3 Glossary of terms and definitions	1
4 Requirements	9
5 Physical dimensions and measurements	14
6 Marking and stamping	15
Figures	
1 Schematic cross section of lens bevel/eyewire interface	2
2 Pantoscopic angle	2
3 Set-back angle.....	3
4 Distance between lenses.....	4
5 Box method for measuring the size of ophthalmic frame fronts	5
6 Measuring and marking of temple lengths in millimeters.....	7
7 Standard boxed lens pattern	8
8 Plastic frames	10
9 Metal frames.....	10
10 Combination frames	11
11 Hinges	11
12 Rimless/Semi-rimless mounts	12
13 Temples (sides).....	12
14 End piece types	13
15 Marking and stamping	14
Annexes	
A Bibliography.....	17
B Information to be supplied with each titanium frame sold at retail.....	18

Foreword (This foreword is not part of American National Standard ANSI Z80.5-2004.)

The Z80 Standards Committee for Ophthalmic Lenses was organized in 1956, and the committee's initial standard was issued in 1964. At the beginning of 1970, the Z80 Standards Committee was reorganized, with the Optical Society of America serving as secretariat. In 1972, the committee was authorized to broaden its scope from "prescription glass ophthalmic lenses" to prescription ophthalmic lenses." Subsequently, the scope of the committee was further broadened to "ophthalmic standards."

In 1970, the Z80 Committee Ophthalmic Lenses, appointed a Subcommittee on Ophthalmic Frames to draft standard requirements for dress ophthalmic frames.

The 2004 revision provides tighter tolerances for eye size and shape and also updated the references to ISO standards to the newest versions. The 1997 revision incorporated the boxing system of frame measurements, which has been in use in the United States since 1962, as well as the Optical Industry Associations-(OMA) standard requirements for marking and stamping gold and gold-filled frames. It also dealt with flammability and impact resistance of frames.

In 1982, the Optical Laboratories Association assumed the responsibilities of the Secretariat; and in 1985, the Z80 Committee became an Accredited Standards Committee. The Scope of the Z80 Committee is for the establishment of standards that shall apply to ophthalmic lenses and to equipment, instruments and to processes used in the final fabrication level which affect their performance; to ophthalmic frames, sunglasses and fashion eyewear; to contact devices in addition to contact lenses; and to optical instrumentation used in ophthalmic procedures and vision evaluation.

Suggestions for improvement of this standard will be welcome. They should be sent to the Optical Laboratories Association, P.O. Box 2000, Merrifield, VA 22116-2000.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Ophthalmic Standards, 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, the Z80 Committee had the following members:

Thomas C. White, M.D., Chairman
Robert Rosenberg, O.D., Secretary

<i>Organization Represented</i>	<i>Name of Representative</i>
AR Council	Scott Rickert Lee K. Anderson (Alt.) Mark Imus (Alt.) Don Quinn (Alt.)
Advance Medical Technologies Association	Douglas J. Fortunato Carolyn Jones (Alt.) Glenn Davies (Alt.) Stanley J. Rogaski (Alt.)
American Academy of Optometry.....	David S. Loshin
American Academy of Ophthalmology	Thomas C. White Gerhard Cibis (Alt.) Keith Baratz (Alt.) Paul F. Vinger (Alt.)
American Optometric Association	Donald Pitts William J. Benjamin (Alt.) Robert Rosenberg (Alt.) Jeffrey Weaver (Alt.)

<i>Organization Represented</i>	<i>Name of Representative</i>
American Society of Cataract and Refractive Surgery	John J. Alpar Jack T. Holladay (Alt.) Stephen H. Johnson (Alt.)
Contact Lens Institute	Ed Schilling
Contact Lens Manufacturers Association.....	Quido Cappelli
Food & Drug Administration	David Whipple Donald Calogero (Alt.) Robert Landry (Alt.) Ashley Boam (Alt.)
National Association of Optometrists & Opticians	Arthur Newman
National Academy of Opticianry	James Elkin Diane L. Finisecy (Alt.)
Optical Laboratories Association	Daniel Torgersen Henry A. Hart (Alt.)
Optical Society of America	Richard A. Phillips
Opticians Association of America.....	April James
Prevent Blindness	Jeff Todd
Sunglass Association of America	Thomas Loomis Kenneth L. Frederick (Alt.) James Pritts (Alt.) Rick Van Arnam (Alt.)
US Leader to ISO TC 172/SC7	Charles E. Campbell
Veterans Administration	John Townsend Sharon R. Atkin (Alt.)
Vision Council of America	Kenneth O. Wood Steve Drake (Alt.) Neil Roche (Alt.) Dick Whitney (Alt.)

The Z80 Subcommittee on Frames, which developed this standard, had the following members:

Arthur Newman, O.D., Chairman	Ken Frederick
	Tom Loomis
	Emeric Miletì
	Julie Milette
	Michelle Princi
	Dan Torgersen
	Ken Wood

American National Standard for Ophthalmics –

Requirements for Ophthalmic Frames

1 Scope and purpose

1.1 Scope

This standard shall apply to the manufacture of all frames intended for street wear as ophthalmic eyewear with prescription lenses, excluding specialty and novelty products such as lorgnettes and monocles. Specifically excluded are products designed to be occupational eyewear as defined in *American National Standard Practice for Occupational and Educational Eye and Face Protection*, ANSI Z87.1-2003, and frames for non-prescription sunglasses, and fashion eyewear as defined in *American National Standard for Ophthalmics - Non-prescription Sunglasses and Fashion Eyewear - Requirements*, ANSI Z80.3-2001, and sport frames as defined in *Specification for Eye Protectors for Use by Players of Racket Sports*, ANSI/ASTM F803-2003.

1.2 Purpose

Standards of quality and uniformity are established for all ophthalmic frames, except as noted above. Nothing in this standard restricts the introduction of changes arising from future improvements in materials or technology which meet or exceed the requirements of this standard.

2 Normative references

The following standards contain provisions which, though referenced in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of

applying the most recent editions of the standards indicated below.

ANSI B1.1-2003, *Unified Inch Screw Threads (UN and UNR Thread Form)*

ANSI Z80.1-1999, *Ophthalmics - Prescription Ophthalmic Lenses Recommendations*

ANSI Z87.1-2003, *Practice for Occupational and Educational Eye and Face Protection*

ANSI/ASTM D635-1998, *Test for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position*

ISO 8624-2002, *Ophthalmic optics - Spectacle frames - Measuring system and terminology*

Bureau of Customs Ruling, *Marking of Imported Eyeglass and Sunglass Frames*, 19 Code of Federal Regulations, Part 134.

3 Glossary of terms and definitions¹

angle, cross: See angle, temple fold.

angle, groove: The included angle formed by the V-shape of an eyewire groove (see figure 1).

¹ Names and drawings of frame parts are included in figures 8-15, but not included in terms.