



Overview of Standards in Optics

The Structure of the Standards Organizations
and
A Sampling of Current Activity



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Chairman, TAG to TC172

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Table of Contents

- ◆ Administration of Standards
- ◆ American Domestic Standards
- ◆ ISO Standards
- ◆ Responsibilities of the OEOSC
- ◆ Standards for Measuring Veiling Glare



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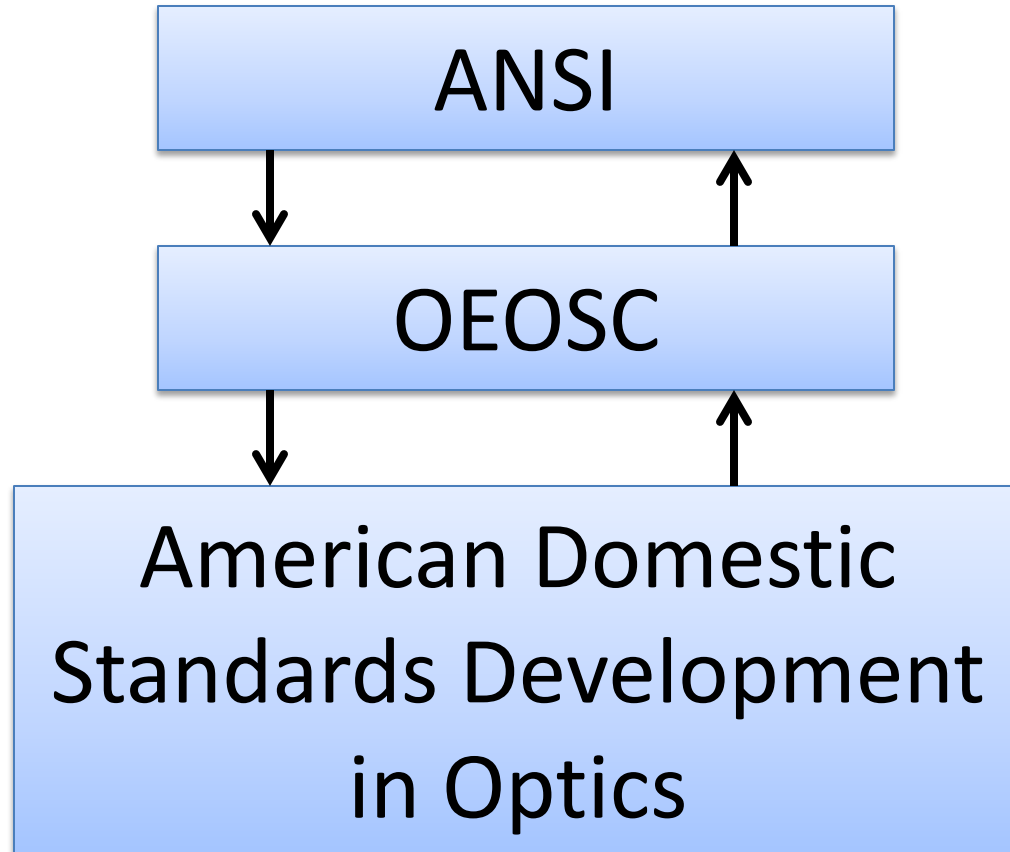
Acronyms and Abbreviations

Secretariats (Administrators)

- ◆ ANSI – American National Standards Institute
 - Origins in 1916
 - Helped to create the ISO in 1946
- ◆ OEOSC – Optical and Electro-Optical Standards Council
 - Formed in 1996
 - National Association of Photographic Mfrs



ANSI/OEOSC ASC OP





ANSI/OEOSC TAG to ISO TC172

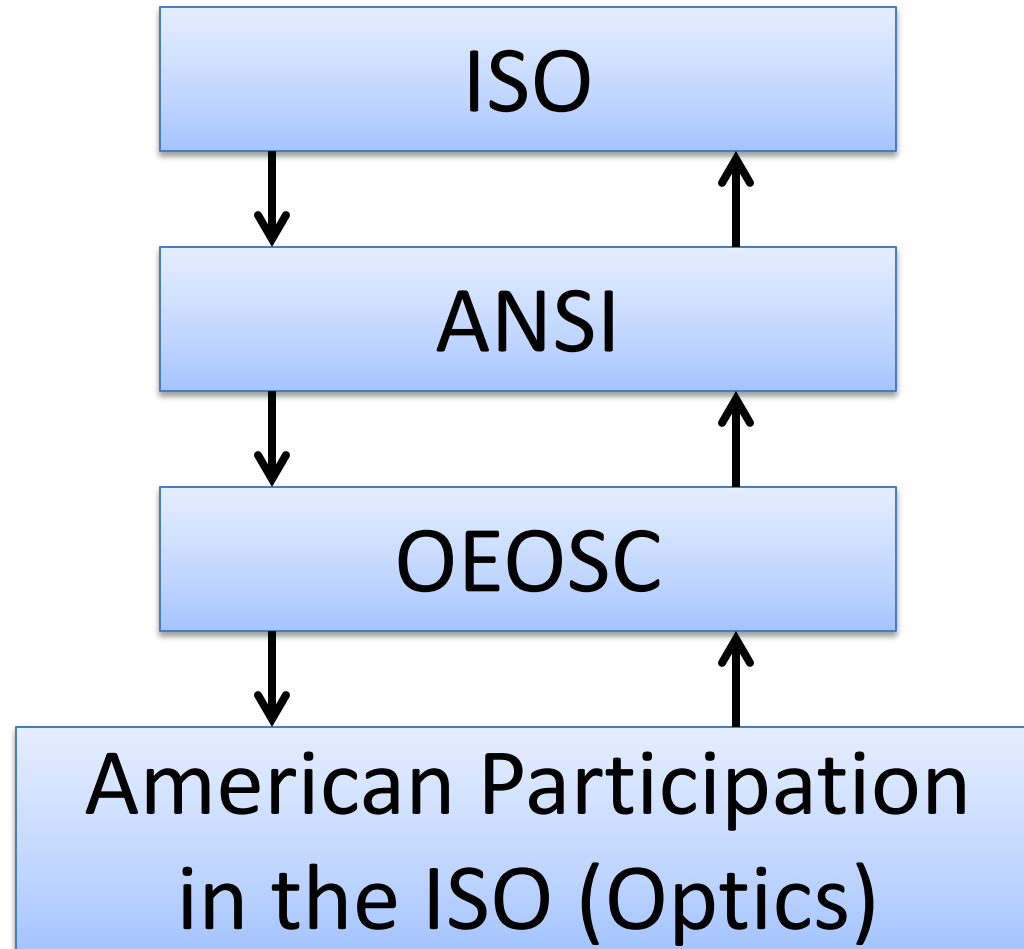




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Acronyms and Abbreviations

American Domestic Standards

- ◆ ASC OP – Accredited Standards Committee for Optics
- ◆ TF – Task Force (or sub-committee)



Structure of ASC OP

- ◆ TF1: Optical Materials (Visible Light)
- ◆ TF2: Surface Imperfections
- ◆ TF3: Wavefront Measurement
- ◆ TF4: Drawings
- ◆ TF6: Infrared Materials
- ◆ TF7: Laser Damage



Structure of ASC OP

- ◆ TF2: Surface Imperfections
 - ▶ OP1.002 - Surface Imperfections



Structure of ASC OP

- ◆ TF3: Wavefront Measurement
 - ▶ OP1.004: Optical Wavefront Measurement
 - Zernike description
 - ▶ OP1.005: Statistical Evaluation of Surfaces
 - Mid-spatial frequencies



Structure of ASC OP

◆ TF7: Laser Damage

▶ New Standard Under Development

- Address short-comings of ISO 21254
- Statistical based testing protocol
- Single shot testing protocol
- Close co-operation with ISO committee



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Acronyms and Abbreviations

ISO International Standards

- ◆ ISO – International Standards Organization
- ◆ TAG – Technical Advisory Committee
- ◆ TC172 – Technical Committee Number 172
(Optics and Photonics)
- ◆ SC – Sub-Committee
- ◆ WG – Working Group
- ◆ (TR – Technical Report)



Structure of ISO TC172

- ◆ SC1: Fundamental Optics
- ◆ SC3: Optical Materials and Components
- ◆ SC4: Telescopic Systems
- ◆ SC5: Microscopes and Endoscopes
- ◆ SC6: Geodetic and Surveying Instruments
- ◆ SC7: Ophthalmic Optics (Instrumentation and Medical Devices)
- ◆ SC9: Lasers and Electro-Optical Systems



Structure of ISO TC172

- ◆ SC1: Fundamental Optics
 - ▶ WG1: General Optical Test Methods
 - ▶ WG2: Drawings of Optical Elements and Systems
 - ▶ WG3: Environmental Test Methods
 - ▶ WG4: Data Transfer



Structure of ISO TC172

◆ SC1: Fundamental Optics

▶ WG1: General Optical Test Methods

- 9358: Veiling Glare of Image Forming Systems
- 14997: Surface Imperfections
- 14999: Interferometric Measurement of Surfaces
- TR: Wavefront Sensors

▶ WG2: Drawings of Optical Elements and Systems

▶ WG3: Environmental Test Methods

▶ WG4: Data Transfer



Structure of ISO TC172

◆ SC1: Fundamental Optics

- ▶ WG1: General Optical Test Methods
- ▶ WG2: Drawings of Optical Elements and Systems
 - 10110-7: Surface Imperfections
 - 10110-18: Material Imperfections
 - 10110-19: Optical Freeform Surfaces
- ▶ WG3: Environmental Test Methods
- ▶ WG4: Data Transfer



Structure of ISO TC172

- ◆ SC3: Optical Materials and Components
 - ▶ WG1: Raw Optical Glass
 - ▶ WG2: Coatings
 - ▶ WG3: IR Materials



Structure of ISO TC172

- ◆ SC3: Optical Materials and Components
 - ▶ WG1: Raw Optical Glass
 - ▶ WG2: Coatings
 - ▶ WG3: IR Materials

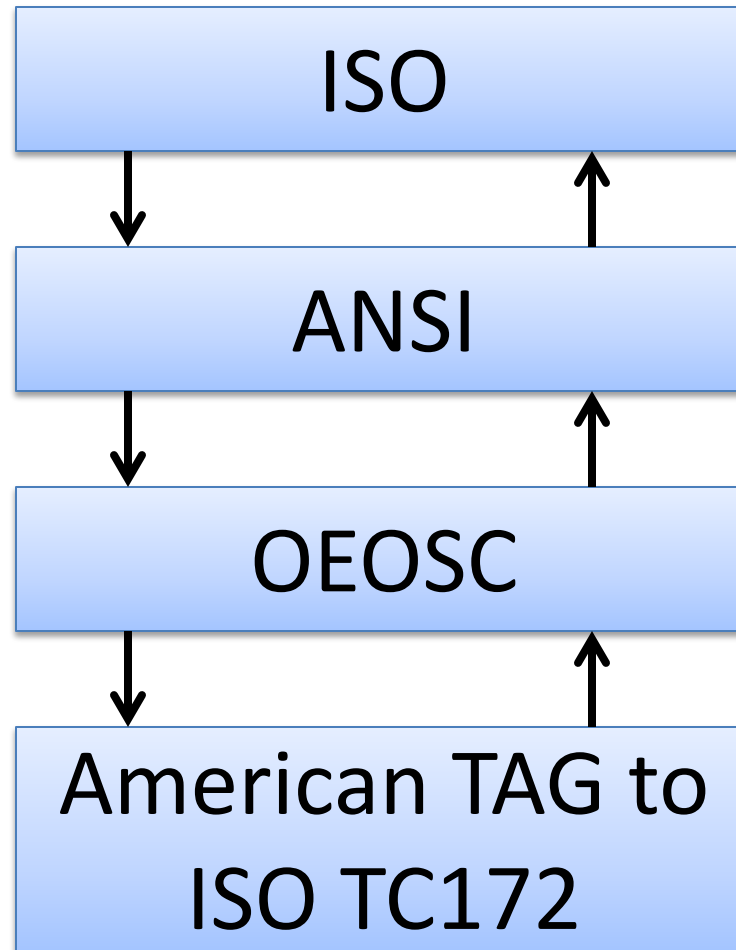


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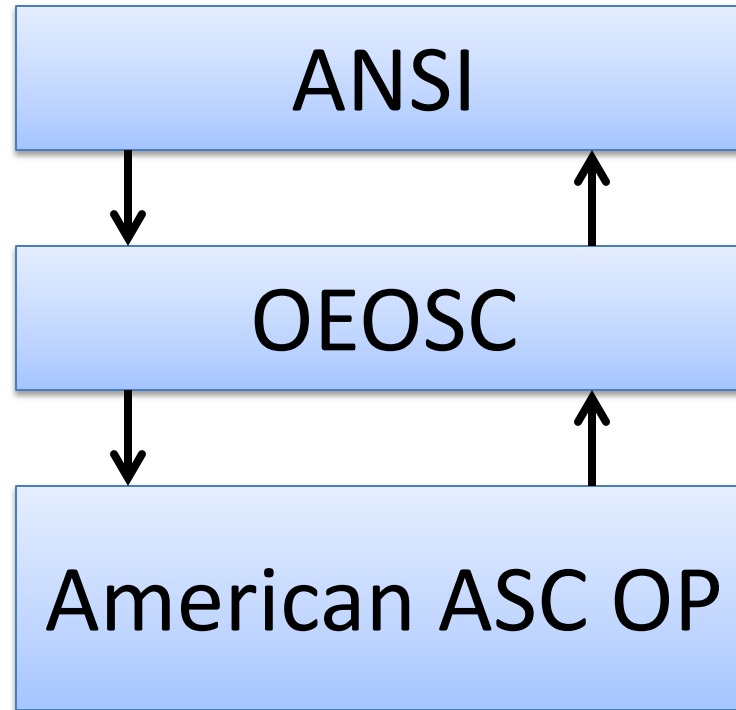


ANSI/OEOSC TAG to ISO TC172





ANSI/OEOSC ASC OP





Responsibilities of the OEOSC

- ◆ Administration
- ◆ Stewardship (of Democracy)



Responsibilities of the OEOSC

- ◆ Administration
 - ▶ Preparation of Manuscripts
 - ▶ Oversee Voting
 - ▶ Conduct the official communications between the standards writers and ANSI or ISO
 - ▶ Manage Meetings
 - ▶ Supervise Membership



Responsibilities of the OEOSC

- ◆ Stewardship (of Democracy)
 - ▶ Openness
 - ▶ Fairness
 - ▶ Balance



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Glare - International Standards

- ◆ ISO 9358: Veiling glare of image forming systems
 - ▶ ISO TC172-SC1-WG1
 - ▶ Deals with the optics separately from the detector
- ◆ ISO 18844: Digital Cameras – Image Flare Measurement
 - ▶ ISO TC42 (Photography) – WG3 (Image Measurement)
 - ▶ Deals with entire camera (lens, body, and sensor)
- ◆ IEC 62676-5: Video Surveillance – Image Quality
 - ▶ IEC TC79 (Alarm and Electronic Security Systems) - WG12 (Video Surveillance Systems)



Overview of Standards in Optics

Thank you for your attention!

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