

ANSI/OEOSC TAG to ISO/TC 172 Annual Report 2005

Table of Contents

1. SC 1 – Fundamental Standards-----Gene Kohlenberg
2. SC 3 – Optical Materials and Components-----Gordon Boulton
3. SC 4 – Telescopic Systems-----Chung-Chieh Cheng (for Fritz Kaufman)
4. SC 5 – Microscopes and Endoscopes-----Lee Shuett
5. SC 6 – Surveying Instruments-----Charles Fronczek
6. SC 7 – Ophthalmic Optics and Instruments-----Charles Campbell
7. SC 9 – Electro-Optical Systems (and Lasers)-----Robert Faaland

ISO/TC 172/SC 1, Fundamental Standards, Activity for 2005

SC 1 met in Weimar, Germany May 25 – 27, 2005. Gene Kohlenberg, OEOSC, and David Aikens, Zygo, represented the United States at these meetings. Other countries represented were France, Germany, Japan, Switzerland, and United Kingdom.

The following items have been excerpted from the Weimar meeting report:

WG 1 General optical test methods

DIS 14999-4 "Interferometric measurement ... – Interpretation and evaluation of ..."

No final conclusion on further procedure for this DIS (disapproved in the voting) could be reached during the Weimar meeting, however, the course of further action as regards the work item was agreed and a new project leader (Karl-Edmund Elßner) appointed.

AWI 14999-5 "Interferometric measurement ... – Measurement procedures"

No conclusion on the further procedure for this newly approved work item could be drawn at the meeting. This depends from the further procedure on ISO/DIS 14999-4.

The Subcommittee considered the future of projects WD 10110-5 and –14 (at stage of newly approved work item) and ISO/DIS 14999-4 (rejected at the DIS stage).

ISO/DIS 14999-4, Optics and photonics – Interferometric measurement of optical elements and optical systems – Part 4: Interpretation and evaluation of tolerances specified in ISO 10110

WD 10110-5, Optics and photonics – Preparation of drawings for optical elements and systems – Part 5:

Surface form tolerances

WD 10110-14, Optics and photonics – Preparation of drawings for optical elements and systems – Part 14:

Wavefront deformation tolerances A task group was formed under the leadership of Dr Elßner to harmonize the three documents. The Subcommittee adopted the recommendation by WG 1 and WG 2 to accept the offer of the US delegation to prepare a summary of a new draft by 31 July 2005. This summary was considered by the task group who decided to accept the US committee's outline. The US is now editing the draft.

CD 15529 "OTF – Principles of measurement of MTF of sampled imaging systems"

The Subcommittee decided – after revision in accordance with the Weimar WG 1 meeting – to submit to ISO Central Secretariat with a view to circulation as a Draft International Standard:

ISO 9334 "OTF – Definitions and mathematical relationships"

ISO CS will be asked to issue a corrected re-print of this standard in order to correct technical errors and to clarify it, as was proposed in the comments received in the systematic review.

ISO 9335 "OTF – Principles and procedures of measurement"

ISO CS will be asked to issue a Technical Corrigendum to this standard in order to correct it as proposed in the comments received in the systematic review.

A possible new item for future work of WG 1 will address the subject of thermal imaging. It was anticipated that a NWIP on this topic will be circulated for vote by the time of the next meeting.

WG 2 Preparation of drawings for optical elements and systems

DIS 10110-1 "Preparation of drawings ... – General"

The draft will be revised according to the decisions of WG 2 based on the voting comments and circulated as a Final Draft International Standard.

CD 10110-12 "Preparation of drawings ... – Aspheric surfaces"

The Subcommittee decided to release ISO/CD 10110-12 as a Draft International Standard:

ISO/CD 10110-12, Optics and photonics – Preparation of drawings for optical elements and systems – Part 12: Aspheric surfaces

The draft will be revised according to the decisions of WG 2 based on the voting comments and circulated as a Draft International Standard.

AWI 10110-7 "Preparation of drawings ... – Surface imperfection tolerances"

The Subcommittee decided to release ISO/WD 10110-7 as a Committee Draft:

WD 10110-7, Optics and photonics – Preparation of drawings for optical elements and systems – Part 7: Surface imperfection tolerances

The draft will be revised according to the decisions of WG 2 based on the voting comments and circulated as Committee Draft.

CD 10110-6 "Preparation of drawings ... – Centring tolerances"

AWI 10110-8 "Preparation of drawings ... – Surface texture"

Confirmation of resolutions already taken at the St Petersburg meeting: Submission of revised drafts for vote as Draft International Standard (ISO/DIS 10110-6) and Committee Draft (ISO/CD 10110-8).

AWI 10110-5 "Preparation of drawings ... – Surface form tolerances"

AWI 10110-14 "Preparation of drawings ... – Wavefront deformation tolerances"

These two work items are closely linked to ISO/DIS 14999-4. No final conclusion on further procedure for the latter could be reached during the Weimar meeting. However, the course of further action was agreed and a new project leader (Karl-Edmund Elßner) appointed.

Joint meeting with ISO/TC 172/SC 3/WG 1

Preparatory work on a future standard and technical report on raw optical glass specification is under way in ISO/TC 172/SC 3/WG 1. As soon as this is an adopted ISO item, adjustment of standards ISO 10110-2, -3 and -4 are likely to be required, and will be proposed as new work items of WG 2 at that time. Information exchange between the two groups will be ongoing.

WG 3 Environmental test methods

DIS 9022-7 "Environmental test methods – Resistance to drip or rain"

DIS 10109-1 "Environmental requirements – General overview ..."

DIS 10109-6 "Environmental requirements – ... medical optical instruments"

DIS 10109-8 "Environmental requirements – ... for extreme conditions of use"

Decided to submit revised drafts for publication as ISO Standards (100 % approval of DIS).

A possible new item for future work of WG 3 will consolidate several parts of ISO 9022 series into one single simplified (and much shorter) standard relating to combined temperature/mechanical stress testing. It was anticipated that a NWIP to this effect (proposal for ISO 9022-22) will be circulated for vote by the time of the next meeting.

WG 4 Data transfer: Contents and management

NWIP xxxxx "Electronic exchange of optical data (NODIF)"

NP 23584 "Specification of reference dictionary"

It was reported that WG 4 had now two approved work items, one being the newly approved project NP 23584 and the other one being "NODIF", for which a late nomination of US expert for active participation was announced during the Weimar meeting. Reports on preparatory work done on the two projects were presented in the WG 4 meeting and there was discussion on them and on the relationships between the various approaches. Conclusions were reached as regards the further procedure, requirements and tasks regarding NP 23584 and its associated database...

Review of structure of the subcommittee and of convenerships; conclusions from review of liaisons; confirmation of any changes.

No need for changes to the subcommittee structure or convenerships was identified. The conclusion of the review of liaisons with other committees was that Thomas Sanger was nominated new (additional) liaison delegates to ISO/SC 184/SC 4.

Furthermore, liaison shall be newly established with ISO/IEC JWG1 "*Product properties and families*". Thomas Sanger and Jean-Luc Levesque will serve as SC 1 liaison delegates to this group.

The United States invited ISO/TC 172/SC 1 and its working groups to hold the next meeting during June 2006 in Boulder, Colorado. Meetings of ISO/TC 172/SC 5 and SC 9 could be held in collocation, if these subcommittees concurred to the proposed place and date.

ISO TC172/SC3 Optical Materials and Components, Activity for 2005

Prepared by Gordon Boulton

There were no SC3 meetings in 2005.

WG1 – Raw optical glass

DATE	TITLE	TYPE	STATUS
3/23/2005	Raw optical glass – Grindability with diamond pellets – Test method and classification	Syst. Review	Confirmed
7/18/2005	ISO 9385: Glass and glass-ceramics – Knoop hardness test	Syst. Review	Confirmed
7/18/2005	ISO 9689: Raw optical glass – Resistance to attack by aqueous alkaline phosphate-containing detergent solutions at 50 degrees C – Testing and classification	Syst. Review	Confirmed
7/18/2005	ISO 11455: Raw optical glass – Determination of birefringence	Syst. Review	Confirmed
7/25/2005	Recommendation for the specification of raw optical glass from given optical element specification	NW	No US interest
7/25/2005	Specification of raw optical glass – Preparation of drawings for raw optical glass parts	NW	No US interest

WG2 – Coatings

Revision of ISO 9211-4, Optical coatings – Part 4: Specific test methods, was completed and is awaiting publication. Revisions included a crosshatch adhesion test; additional degrees of severity for solubility; and a normative annex for preparing the cheesecloth pad for moderate abrasion testing.

Revision of ISO 9211-3, Optical coatings – Part 3: Environmental durability, was revised in December and submitted to AFNOR in January 2006 for circulation. The revisions were necessary to make it consistent with the changes to ISO 9211-4.

9211-1: Definitions, and 9211-2: Optical properties, were confirmed.

2005 ANNUAL REPORT

ISO / TC 172 / SC4

- The 9th Meeting of ISO/TC 172/SC 4 “Telescopic Systems” was held in Saint Petersburg, Russian Federation, from November 21 to 23, 2005. The United States was represented with two delegates, Dr. Chung-Chieh Cheng and Mr. Morris Bierig. The approved resolution of the meeting is available on the website of OEOSC.
- Summary of the resolution:
 - 1) 9 International Standards have been published since the 8th meeting, :
ISO 14135-1, -2, 14490-1, -2, -3, -4, -5, -6 and -7.
 - 2) 2 International Standards are pending the publication at ISO/CS:
ISO 14133-1, -2.
 - 3) Disbandment of WG1 and WG3 due to completion of the work items.
 - 4) Revision of ISO 9336-3:1994: Optics and optical instruments — Optical transfer function — Applications — Part 3: Telescopes: The delegates in SC4 would summarize their national opinions and submit them to the secretariat within 3 months.
 - 5) Further treatment of the following work items of WG5 due at the end of February, 2006:

ISO 14132-5 Optics and photonics — Vocabulary for telescopic systems — Part 5: Terms for night vision devices.
ISO 21094 Optics and photonics — Specifications for night vision devices
ISO 14490-8 Optics and photonics — Test methods for telescopic systems — Part 8: Test methods for night vision devices.
- WG 5 will hold its next meeting in April 2006 in Baden (Switzerland) according to the invitation of ISO/TC 172/SC 7 secretariat to join their Plenary. Attendance and participation from US delegates are planned.

Prepared by

Chung-Chieh Cheng
Research and Development
Leupold & Stevens, Inc.

ISO/TC 172/SC 5, Microscopy and Endoscopes, Activity for 2005

SC 5 met in Met in Lucerne Switzerland September 19-23, 2005

Attending for the US Delegation was Lee Shuett, US TAG SC5 Leader

Other countries represented were Great Britain, Germany, Japan, China and the host country, Switzerland.

P-Members not represented in the meeting:

Austria (ON), Romania (ASRO), Russian Federation (GOST R), Republic of Korea (KATS).

WG 6 "Endoscopes"

WG 6 is currently considering several items on a sophisticated level for possible future work. These topics include "Terms and definitions of flexible endotherapy devices", "Terms and definitions of rigid endoscopic endotherapy devices" and "Reprocessing and maintenance requirements".

CEN BT TF 123/PG 7 "Use of luer connectors in endoscopic systems"

It was identified, that the activities of PG 7 have a strong relation to the work of ISO/TC 172/SC 5/WG 6. For further details see Document ISO/TC 172/SC 5/WG 6 N 78.

WG 3 "Terms and definitions"

Further processing of item WI 10934-2 was completed. It was reported that the CD was deliberated deeply and detailed at the last two meetings of WG 3 and was released by WG 3 for launching DIS.

Resolution Lucerne 97/2005

WG 8 "Immersion media for light microscopy"

The following conclusions and recommendations by the WG were adopted by the subcommittee: The Subcommittee appointed Thomas Bocher, Germany, as the new Convener of ISO/TC 172/SC 5's working group WG 8.

Resolution Lucerne 99/2005

Further processing of item WI 8036:

All the comments to the DIS could be solved at the WG 8 meeting earlier this week. One remaining issue related to the viscosity of Glycerol as used as an immersion medium will be clarified by the US NC and ISO/TC 172/SC 5 N 389; Once the draft is ready, it will be launched to ISO/CS for FDIS voting.

Resolution Lucerne 98/2005

WG 9 "Optical performance of microscope components"

Further processing of item WI 19012-1: convener informed that the DIS manuscript for this draft was submitted to ISO/CS in mid July 2005. The DIS will be out for voting when the editing in ISO/CS is finished and the French language version is adjusted. A future Part 2 "Naming for chromatic correction - Minimum specifications" is under investigation and will be discussed further at the next meetings.

WG 10 "Microscope digital image data"

On behalf of the convener George Steares, Lee Shuett gave a report on the WG 10 activities. Since there were only very few, SC 5 asked to clarify on US level how this WG will be led in future and encouraged the US to take up actions. The US delegation expressed itself as confident to call a first WG 10 meeting during the next meeting session of SC 5 next year. Also a set of first papers was promised by the US delegation.

Resolution Lucerne 96/2005

Status report on revisions to current Standards

ISO 11884-1 "Minimum requirements for stereomicroscopes – Part 1: Stereomicroscopes for general use"

The secretary informed the meeting about the positive DIS voting. Furthermore the DIS voting contained only positive votes accompanied by two very minor editorial comments. On that basis the ISO rules allow the direct processing to publication by skipping the FDIS stage. That was done and the standard is expected to be published after the preparation of the French language version.

ISO 11884-2 "Minimum requirements for stereomicroscopes – Part 2: High performance microscopes"

The secretary informed the meeting about the positive CD voting (see N 377). Furthermore the CD voting contained only positive votes with no comments. The manuscript was launched to ISO/CS for DIS voting mid July this year and the DIS is expected to be published after the preparation of the French language version.

Status report on five-years-revisions

ISO 10936-1:2000 - Operation microscopes - Part 1: Requirements and test methods

The deadline for the ballot for this systematic review was 2005-09-09 (see N 381). The result was distributed to SC 5 prior to this meeting (see N 386). All members having replied to this ballot favored a confirmation, hence the result of this systematic review is "confirmation".

ISO 10937:2000 - Microscopes - Diameter of interchangeable eyepieces

The deadline for the ballot for this systematic review was 2005-09-09 (see N 382). The result was distributed to SC 5 prior to this meeting (see N 387). All members having replied to this ballot favored a confirmation, hence the result of this systematic review is "confirmation".

ISO 15227:2000 - Microscopes - Testing of stereomicroscopes

The deadline for the ballot for this systematic review was 2005-09-09 (see N 383). The result was distributed to SC 5 prior to this meeting (see N 388). All members having replied to this ballot favored a confirmation, hence the result of this systematic review is "confirmation".

Any other business

Appointment of liaison contact to IEC/SC 62D MT 16 "Electrical equipment in medical practice": Roger Gray volunteered to accept the task for SC 5 being the liaison contact. An overview on the standards and projects of this committee can be accessed at IEC homepage at any time.

Proposal and acceptance by the secretariat for a new SC-5 chairman Thomas Bocher (Germany). This proposal shall formally be accepted by the superior group TC 172. The secretary will take care about this.

Reference Dictionary elaborated in TC 172/SC 1 "Fundamental standards" Kimiaki Yamamoto gave a short report about the activities in SC 1 about the work on the "Reference Dictionary". It was noticed that these activities have an influence on SC 5. It was decided, to appoint Kimiaki Yamamoto as contact person to SC 5. He is member of the responsible SC 1/ WG 4 and has access to the numerous documents on Livelink. Kindly he volunteered to sift through the documents and to forward the relevant documents to the secretary for distribution in SC 5.

Requirements concerning a subsequent meeting

The acting chairman informed about an invitation from the US delegation to host and hold the next meeting session on our about 2006-10-09/13 in New York City.

For the 2007 meeting the Chinese delegation has announced to check possibilities to host a meeting in 2007 in Hang Zhou.

LEE SHUETT
US TAG SC5 Leader
January 11, 2006

ISO/TC 172/SC 6, Fundamental Standards, Activity for 2005

There has been little action by the SC6 for this past year.

ISO/FDIS 17123-5: Optics and optical instruments - Field procedures for testing geodetic and surveying instruments - Part 5: Electronic tacheometers was approved.

ISO/TC 172/SC 7 Ophthalmic Optics

Annual Report for 2005

Prepared by

Charles Campbell, SC7 US Delegation Leader

No meetings of SC7 were held in 2005. The next meeting of SC7 is scheduled to be held in Baden, Switzerland on April 24 to 28, 2006.

During the course of the year the work of the various working groups, as represented by the documents prepared and voted on, was as follows;

New work proposed – 3

WG6 – 1

WG7 - 2

NWIP (new work item proposals) - 3

WG2 – 1

CD (committee drafts) - 3

WG6 agree – 2

WG7 agree - 1

DIS (draft international standard) – 11

WG3 agree - 2

WG6 agree –4/2 with comment

WG7 agree with comment –4, disagree -1

FDIS (final draft international standard) - 9

WG2 agree – 1

WG3 agree – 4

WG6 agree - 4

Systematic 5-year review – 8

WG6 – 5
WG7 – 1
WG9 – 2

It can be seen that the work of SC7 in 2005 is further along in the standardization cycle than it was in 2004. There are fewer standards in the CD stage and many in the DIS and FDIS stage. Most of the items that need standardization have been addressed and a good deal of the work now consists in revision of existing standards. This is reflected in the number of standards that came up for 5-year periodic review. This is only reasonable for a subcommittee that has been in active existence for over 20 years.

WG7 – Implants has been revising various sections of the Intraocular Standard and have held a number of special meetings through out the year to do this.

WG9 – Contact Lenses has essentially completed the process of consolidating various standards relating to contact lenses created over a period of over 10 years into a single comprehensive standard.

It will be noted that although there were there were several formal meetings held by working groups WG7 and WG9. Other work continued to flow at a goodly rate through the various working groups by correspondence.

During 2005, 5 new International Standards originating in SC7 were published. They came from the following working groups.

WG2 - 1
WG3 - 1
WG6 - 3

ISO/TC 172/SC 9 Electro-Optical Systems (Including Lasers)

Annual Report for 2005

Prepared by

Robert Faaland, SC 9 US Delegation Leader

The ISO Electro-Optical Systems (including lasers) Subcommittee (ISO/TC 172/SC 9) held its annual meeting in London, United Kingdom on June 20-22, 2005. The meeting was hosted by the British Standards Institute (BSI). The following US members were in attendance: R. Faaland (US Delegation Leader), B. Hitz (Chairman ISO/TC 172/SC 9), T. Lieb (IEC/TC 76 liaison), C. Camelio, G. Wolf, J. Arenberg, and M. Dowell.

An outcome of the Milan (2002) meeting was that an agreement had finally been reached between ISO/TC 172/SC 9 and IEC/SC 47E on how laser diode standards would be handled between ISO and IEC. This had been the result of work during many past annual meetings of the Joint Working Group (JWG) formed by members of the ISO and IEC subcommittees. At the Tokyo (2003) meeting, decisions were made relevant to changes which need to be incorporated into ISO and IEC documents. Work continued at the Pforzheim (2004) and London (2005) meetings. These suggested changes, and present status of affected documents, are:

1. ISO 11145 will include definitions related to misalignment and astigmatic difference in its amendment version. [The DIS manuscript for the amendment of ISO 11145 has been approved. A decision was made to publish a revision of ISO 11145 which will incorporate the amendment. Circulation of the FDIS manuscript to revise ISO 11145:2001 (and incorporate the amendment) is forthcoming.]
2. ISO 11146-1 will include astigmatic equation. [Standard was published January 15, 2005.]
3. ISO 11554 will include definition and measurement method for the fall time in its amendment version. [The FDIS manuscript for revision of ISO 11554 has been circulated. Voting terminates on February 15, 2006.]
4. IEC 60747-5-4 will include definition and measurement method for the half-intensity angle. Also, tables of the item of terminologies and easement methods

which have been described in the relevant ISO documents will be inserted in the appropriate part of IEC document. [Status of this IEC document is reported to be at the DIS stage.]

The following SC 9 developed standards were published in 2005:

1. ISO 11146-1:2005 – *Lasers and laser-related equipment – Test methods for laser beam widths, divergence angles and beam propagation ratios – Part 1: Stigmatic and simple astigmatic beams (Revision of ISO 11146:1999)* [published January 15, 2005]
2. ISO 11146-2:2005 – *Lasers and laser-related equipment – Test methods for laser beam widths, divergence angles and beam propagation ratios – Part 2: General astigmatic beams (Revision of ISO 11146:1999)* [published February 15, 2005]
3. ISO/TR 11146-3:2004/Technical Corrigendum 1:2005 – *Lasers and laser-related equipment – Test methods for laser beam widths, divergence angles and beam propagation ratios – Part 3: Intrinsic and geometrical laser beam classification, propagation and details of test methods (Revision of ISO 11146:1999)* [published February 15, 2005]
4. ISO 11553-1:2005 – *Safety of machinery – Laser processing machines – Part 1: General safety requirements* [published February 1, 2005] (dual logo (IEC/ISO standard))
5. ISO 11810-1:2005 – *Lasers and laser-related equipment – Test method and classification for the laser resistance of surgical drapes and/or patient protective covers – Part 1: Primary ignition and penetration* [published February 15, 2005]
6. ISO 13694:2000/Technical Corrigendum 1:2005 – *Optics and optical instruments – Lasers and laser-related equipment – Test methods for laser beam power (energy) density distribution* [published November 1, 2005]
7. ISO 14880-1:2001/Technical Corrigendum 2:2005 – *Optics and photonics – Microlens arrays – Part 1: Vocabulary* [published August 1, 2005]
8. ISO 15367-2: 2005 – *Lasers and laser-related equipment – Test methods for determination of the shape of a laser beam wavefront – Part 2: Shack-Hartmann sensors* [published March 15, 2005]
9. ISO/TR 22588:2005 – *Optics and photonics – Lasers and laser-related equipment – Measurement and evaluation of absorption-induced effects in laser optical components* [published September 15, 2005]

The following SC 9 developed standards were the subject of a systematic review:

1. ISO 11151-1:2000 – *Lasers and laser-related equipment – Standard optical components – Part 1: Components for the UV, visible and near-infrared spectral ranges*. A decision was reached at the London meeting to confirm this standard.
2. ISO 11151-2:2000 – *Lasers and laser-related equipment – Standard optical components – Part 2: Components for the infrared spectral range*. A decision was reached at the London meeting to confirm this standard.

3. ISO 11254-1:2000 – *Lasers and laser-related equipment – Determination of laser-induced damage threshold of optical surfaces – Part 1: 1-on-1 test*. A decision was reached at the London meeting to confirm this standard with the intent to restructure the 11254 series of standards in the near future.
4. ISO 13694:2000 – *Optics and optical instruments – Lasers and laser-related equipment – Test methods for laser beam power (energy) density distribution*. A decision was reached at the London meeting to confirm this standard with the intent to issue a Technical Corrigendum in the near future to include a patent statement that was required and also to eliminate incorrect details on the determination of the goodness of fit.

The following list summarizes the status of documents being developed by SC 9:

1. ISO 11145:2001/DAmD 1, *Optics and optical instruments – Lasers and laser-related equipment – Vocabulary and symbols – Amendment 1*: Voting on the manuscript which terminated on March 7, 2005 approved the document. However, a decision was made to publish a revision which will incorporate the amendment. The FDIS manuscript for the revision has not yet been circulated.
2. ISO DIS 11254-3, *Lasers and laser-related equipment – Determination of laser-induced damage threshold of optical surfaces – Part 3: Assurance of laser power (energy) handling capabilities*: Voting on the DIS manuscript which terminated on October 19, 2005 approved the issuance of an FDIS. However, the FDIS manuscript has not yet been circulated.
3. ISO DIS 11553-2, *Safety of machinery – Laser processing machines – Part 2: Safety requirements for hand-held laser processing devices*: Voting on the DIS manuscript which terminated on March 7, 2005 approved the issuance of an FDIS. However, the FDIS manuscript has not yet been circulated. (As noted below in the document-related resolutions, it is anticipated that the FDIS manuscript for this dual logo (IEC/ISO) standard will be issued following the November 2005 meeting of IEC/TC 76.)
4. ISO FDIS 11554, *Optics and photonics – Lasers and laser-related equipment – Test methods for laser beam power, energy and temporal characteristics (Revision of second edition (ISO 11554:2003))*: Voting on the FDIS manuscript will terminate on February 15, 2006.
5. ISO DIS 11810-2, *Lasers and laser-related equipment – Test method and classification for the laser resistance of surgical drapes and/or patient protective covers – Part 2: Secondary ignition*: Voting on the DIS manuscript will terminate on April 10, 2006.
6. ISO DIS 13697, *Optics and photonics – Lasers and laser-related equipment – Test methods for specular reflectance and transmittance of optical laser components*: Voting on the DIS manuscript which terminated on March 21, 2005 approved the issuance of an FDIS. However, the FDIS manuscript has not yet been circulated.
7. ISO FDIS 14880-2, *Optics and photonics - Microlens array – Part 2: Test methods for wavefront aberrations*: Voting on the FDIS manuscript which

terminated on November 28, 2005 approved the document. The standard is now under publication.

8. ISO DIS 14880-3, *Optics and photonics – Microlens arrays – Part 3: Test methods for optical properties other than wavefront aberrations*: Voting on the DIS manuscript which terminated on June 13, 2005 approved the issuance of an FDIS. However, the FDIS manuscript has not yet been circulated.
9. ISO DIS 14880-4, *Optics and photonics – Microlens arrays – Part 4: Test methods for geometrical properties*: Voting on the DIS manuscript which terminated on June 13, 2005 approved the issuance of an FDIS. However, the FDIS manuscript has not yet been circulated.
10. ISO DIS 24013, *Optics and photonics – Lasers and laser-related equipment – Measurement of phase retardation of optical components for polarized laser radiation*: Voting on the DIS manuscript which terminated on August 24, 2005 approved the issuance of an FDIS. However, the FDIS manuscript has not yet been circulated.

The following document-related resolutions were made at the London meeting:

1. Item 11151-1, *Lasers and laser-related equipment – Standard optical components – Part 1: Components for the UV, visible and near-infrared spectral ranges*: as a result of the systematic review, ISO 11151-1:2000 will be confirmed.
2. Item 11151-2, *Lasers and laser-related equipment – Standard optical components – Part 2: Components for the infrared spectral range*: as a result of the systematic review, ISO 11151-2:2000 will be confirmed.
3. Item 11254-1, *Lasers and laser-related equipment – Determination of laser-induced damage threshold of optical surfaces – Part 1: 1-on-1 test*: as a result of the systematic review, ISO 11254-1:2000 will be confirmed. However, it was agreed to restructure the ISO 11254 series to embody the latest techniques, to eliminate redundancies and to facilitate maintenance of the standard. The following structure is proposed: Part 1: Definitions and general principle; Part 2: Threshold determination; Part 3: Assurance of laser power (energy) handling capabilities; and Part 4: Inspection, detection and measurement. New work item proposals are to be issued in 2006.
4. Item 11254-3, *Lasers and laser-related equipment – Determination of laser-induced damage threshold of optical surfaces – Part 3: Laser power (energy) handling capabilities*: The title is to be changed to: *Lasers and laser-related equipment – Determination of laser-induced damage threshold of optical surfaces – Part 3: Assurance of laser power (energy) handling capabilities*.
5. Item 11553-1, *Safety of machinery – Laser processing machines – Part 1: General safety requirements*: A New Work Item Proposal for an amendment to add noise requirements will be circulated. Once added to the work program, the manuscript of the amendment will be circulated to SC 9 members for voting and comment.
6. Item 11553-2, *Safety of machinery – Laser processing machines – Part 2: Safety requirements for hand-held laser processing devices*: an FDIS manuscript is to be

- circulated to SC 9 members for voting and comment after revisions as a result of the November 2005 Frankfurt meeting of IEC/TC 76/JWG 10.
7. Item 11810-2, *Lasers and laser-related equipment -- Test method and classification for the laser resistance of surgical drapes and/or patient protective covers – Part 2: Secondary ignition*: a DIS manuscript is to be submitted to SC 9 members for voting and comment.
 8. Item 13694, *Optics and optical instruments – Lasers and laser-related equipment – Test methods for laser beam power (energy) density distribution*: as a result of the systematic review, ISO 13694:2000 will be confirmed. However, a decision was made to issue a Technical Corrigendum to include a patent statement that was required and also to eliminate incorrect details on the determination of the goodness of fit.
 9. Item 13697, *Optics and photonics – Lasers and laser-related equipment – Test methods for specular reflectance and transmittance of optical laser components*: an FDIS manuscript is to be submitted to SC 9 members for voting and comment.
 10. Item 14880-3, *Optics and photonics – Microlens arrays – Part 3: Test methods for optical properties other than wavefront aberrations*: an FDIS manuscript is to be submitted to SC 9 members for voting and comment.
 11. Item 14880-4, *Optics and photonics – Microlens arrays – Part 4: Test methods for geometrical properties*: an FDIS manuscript is to be submitted to SC 9 members for voting and comment.
 12. Item 15902, *Optics and photonics – Diffractive optics – Vocabulary*: a corrigendum will be published to correct identified errors in ISO 15902:2004.

SC 9 intends to contribute to the ISO/TC 172 Online Properties Dictionary (approved ISO/TC 172 Work Item 23584). Initially, the Secretariat will upload standardized terminology from ISO 11145 (*Optics and optical instruments – Lasers and laser-related equipment – Vocabulary and symbols*), ISO 11807-1 (*Integrated optics – Vocabulary – Part 1: Basic terms and symbols*) and -2 (*Integrated optics – Vocabulary – Part 2: Terms used in classification*), ISO 14880-1 (*Optics and photonics – Microlens arrays – Part 1: Vocabulary*), ISO 15367-1 (*Lasers and laser-related equipment – Test methods for determination of the shape of a laser beam wavefront – Part 1: Terminology and fundamental aspects*), and ISO 15902 (*Optics and photonics – Diffractive optics – Vocabulary*) to the ISO/TC 172 properties server. Additional terms, definitions and contributions will follow.

The next meeting of ISO/TC 172/SC 9 will be held in Boulder, Colorado, USA on June 28-30, 2006.