



STATUS OF ISO/TC 206 ON FINE CERAMICS

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1. Setting-up of the Technical Committee

In April 1992, in response to a proposal of “Early-Stage-Standardization” by ABTT (ISO/IEC Presidents’ Advisory Board on Technological Trends), Japanese Industrial Standards Committee (JISC) made a formal proposal to establish a new ISO Technical Committee on Fine Ceramics. In consequence of a ballot among the ISO member bodies, the ISO Council approved the establishment of new Technical Committee ISO/TC 206 in December 1992. The ISO Technical Management Board (TMB) allocated the Secretariat for ISO/TC 206 to JISC (Japan). The JISC appointed Dr. Takashi Kanno (Asahi Glass Co., Ltd., Japan) as a Secretary and the ISO/TB appointed Mr. Samuel Schneider Jr. (National Institute of Standards and Technology, USA) as a Chairman of ISO/TC 206.

Mr. Takashi Takahashi (Toshiba Co., Ltd.) had been in the position of the Secretary from November 2002, and from April 2005, Dr. Shuji Sakaguchi (AIST) has followed the position.

Dr. Ronald Munro (National Institute of Standards and Technology, USA) has followed the Chairman from June 2003. The position of chairman was vacant from July 2004. Dr. Tai-Kyu Lee (Nanopac Co., Korea Rep. of) has followed the Chairman from May 2006.

2. Title and Scope of ISO/TC 206

At the first Plenary Meeting in Tokyo in May 1994, the title and scope of the ISO/TC 206 were approved by P-members as follows:

Table 1 - Title and Scope of ISO/TC 206

<p>Title: Fine ceramics NOTE – Alternative terms for fine ceramics are advanced ceramics, engineered ceramics, technical ceramics, or high performance ceramics.</p>
<p>Scope: Standardization in the field of fine ceramic materials and products in all forms: powders, monoliths, coatings and composites, intended for specific functional applications including mechanical, thermal, chemical, electrical, magnetic, optical and combinations thereof. The term “fine ceramics” is defined as “a highly engineered, high performance, predominantly nonmetallic, inorganic material having specific functional attributes”.</p>

3. Membership of ISO/TC 206

Member bodies, which decide to take an active part in the work of a Technical Committee, are designated as P-members (participating members) of that committee. They have an obligation to vote and, whenever possible, to attend meetings. Member bodies, which wish only to be kept informed of the work of a Technical Committee, are registered as O-members (observers).

The membership of the ISO/TC 206 consists of 17 P-members and 12 O-members.

Table 2 - Membership of ISO/TC 206

<p>P (participating)-members (17 countries, include secretariat (Japan)) Austria, Belgium, Canada, China, Czech Republic, France, Germany, Indonesia, Italy, Japan, Republic of Korea, Malaysia, Russian Federation, Thailand, Ukraine, United Kingdom, USA</p>
<p>O (observer)-members (12 countries) Cuba, Ecuador, Egypt, Pakistan, Philippines, Poland, Serbia, Slovakia, Spain, Switzerland, Turkey, Venezuela</p>



4. Liaison organizations

Within each organization of ISO/IEC, Technical Committees working in related fields have to establish and maintain Liaison. Liaison with other organizations working or interested in similar or related fields may be established.

Establishment of Liaisons with technical committees and subcommittee in ISO/IEC, and with other organizations were approved at the first Plenary Meeting. Technical cooperation with CEN/TC 184 under "Vienna Agreement" was also approved.

We have a resolution that the experts are invited from ISO/TC4/WG14 'Silicon nitride bearing balls' to ISO/TC206/WG36 'Ceramic bearing materials'.

For the item NP0703, we have an agreement with TC213(WG16) will join to the discussion on this item, once the discussion is started.

Table 3 - Cooperation and Liaisons

ISO/TC 24/SC 4 :	Sieves, sieving and other sizing methods / Sizing by methods other than sieving
ISO/TC 33 :	Refractories
ISO/TC 150/SC 1 :	Implants for surgery / Materials
ISO/TC 164 :	Mechanical testing of metals
ISO/TC 229 :	Nanotechnologies
IEC/SC 15C :	Specifications / Insulating materials
VAMAS :	Versailles Project on Advanced Materials and Standards
ICF :	International Ceramic Federation
CEN/TC 184 :	Advanced Technical Ceramics

5. Organization structure of ISO/TC 206

During the past Plenary Meetings of ISO/TC 206, Working Groups have been established for specific tasks to preparing Working Drafts for respective New Work Items (see Table 5), which have been approved to introduce in the Work Programme of ISO/TC 206.

At the 9th Plenary Meeting in Berlin ISO/TC 206 approved to dissolve all those working groups that completed their work by producing a published ISO Standard in their work area, but currently, we stop dissolving working groups for conducting systematic review.

ISO/TC 206 also approved to dissolve the Advisory Group on Planning, and to establish an Advisory Group with the function of Planning, Coordination and Steering of the committee's work of an advisory nature.

The titles and Conveners of current Working Groups are listed in Table 4, including Advisory Group (AG) and WGs for Preliminary Work Items (PWI). Working Group members are composed of technical experts nominated by P-members and Category A Liaison Organizations.

Table 4 - Organization structure of ISO/TC 206

Technical Committee (TC)	
Secretariat: JISC (Japanese Industrial Standards Committee)	
Chairman: Dr. Tai-Kyu Lee (Nanopac Co., Rep. of Korea)	
Vice Chair: Prof. Michael Jenkins (California State Univ. Fresno, USA)	
Secretary: Dr. Shuji Sakaguchi (AIST, Japan)	
Working Group (WG)	
Advisory group (AG)	
to assist the chairman and secretariat in tasks concerning <u>coordination</u> , <u>planning</u> and <u>steering</u> of the committee's work or other specific tasks of an advisory nature.	
Convenor: Dr. Roger Morrell (National Physical Laboratory, United Kingdom)	
WG 01: Particle size distribution of ceramic powders (dissolved)	
WG 02: Flexural strength of monolithic ceramics at room temperature (dissolved)	
WG 03: Hardness of monolithic ceramics at room temperature (dissolved)	
WG 04: Classification of fine ceramics (dissolved)	
WG 05: Specific surface area of ceramic powders (dissolved)	
WG 06: Tensile strength of monolithic ceramics at room temperature (dissolved)	
WG 07: Fracture toughness by SEPB (dissolved)	
WG 08: Flexural strength at elevated temperatures (dissolved)	
WG 09: Tensile behaviour of composites (dissolved)	
WG 10: Elastic moduli of monolithic ceramics (dissolved)	



WG 11: Weibull statistics of strength data (dissolved)
WG 12: Thermal expansion of monolithic ceramics (dissolved)
WG 13: Absolute density of ceramic powders Dr. Shigehisa Endo (National Institute of Advanced Industrial Sci. and Tech., Japan)
WG 14: Density and apparent porosity (dissolved)
WG 15: Thermal diffusivity by laser flash method Dr. Takefumi Mitsuhashi (National Institute for Materials Science, Japan)
WG 16: Fracture toughness by CSF method (dissolved)
WG 17: Adhesion of ceramic coatings by scratch testing Dr. Peter Hatto (IonBond Ltd, United Kingdom)
WG 18: Adhesion of thermal spray coatings by Peel Test (deleted on 2003-07-24)
WG 19: Compressive behaviour of composites Dr. Michael G. Jenkins (University of Detroit Mercy, USA)
WG 20: Interlaminar shear behaviour of composites Dr. Edgar Lara-Curzio (Oak Ridge National Laboratory, USA)
WG 21: In-plane shear behaviour of composites Dr. Edgar Lara-Curzio (Oak Ridge National Laboratory, USA)
WG 22: Terminology (dissolved)
WG 23: Light transmittance of films (dissolved)
WG 24: Oxidation resistances of non-oxide ceramics (dissolved)
WG 25: Friction and wear by ball-on-disk (dissolved)
WG 26: Particle size distribution by laser diffraction Dr. Shigeru Hayashi (National Aerospace Laboratory, Japan)
WG 27: Coarse particles in ceramic powders by wet sieving Dr. Hiroya Abe (Osaka University, Japan)
WG 28: Fracture toughness by CNB method Dr. Jonathan Salem (NASA Glenn Research Center, USA)
WG 29: Corrosion resistance in acid and alkaline solutions Dr. Akira Okada (Nissan Motor Co., Ltd., Japan)
WG 30: Thickness by contact probe profilometer Dr. Takao Nagatomo (Shibaura Institute of Technology, Japan)
WG 31: Cyclic bending fatigue at room temperature Dr. Wataru Kanematsu (National Institute of Advanced Industrial Sci. and Tech., Japan)
WG 32: Tensile creep of monolithic ceramics Dr. Tatsuki Ohji (National Institute of Advanced Industrial Science and Technology, Japan)
WG 33: Air purification performance of semiconducting photocatalytic materials: Part 1: Removal of nitric oxide Dr. Koji Takeuchi (National Institute of Advanced Industrial Sci. and Tech., Japan)
WG 34: Fracture toughness by single edge vee-notch beam (SEVNB) method Dr. Roger Morrell (National Physical laboratory, UK)
WG 35: Tap density of ceramic powders Dr. Hee-Soo Lee (Pusan National University, Rep. of Korea)
WG 36: Ceramic bearing materials Prof. Katsutoshi Komeya (Yokohama National University, Japan)
WG 37: Test methods for photocatalytic materials Dr. Koji Takeuchi (National Institute of Advanced Industrial Sci. and Tech., Japan)
WG 38: Test methods for coatings Dr. Peter Hatto (IonBond Ltd, United Kingdom)
WG 39: Continuous fibre composites structures Prof. Michael Jenkins (University of Detroit Mercy, USA)
WG 40: Porous ceramics Prof. Keisuke Tanaka (Nagoya University, Japan)
WG 41: Ion-conductive ceramics Prof. Shu Yamaguchi (The University of Tokyo, Japan)



6. Project stage of work items

A list of International Standards that have been published by the ISO/TC 206 is shown in Table 5 together with an overview of existing and planned standardization projects, called Work Items (WI).

Table – 5-1 Project stages of work items (Published items)

Published Standards (33)	
ISO 14703: 2008 (2nd version)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Sample preparation for the determination of particle size distribution of ceramic powders
ISO 14704: 2008 (2nd version)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for flexural strength of monolithic ceramics at room temperature
ISO 14705: 2008 (2nd version)	Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for hardness of monolithic ceramics at room temperature
ISO 15165: 2001 (confirmed: 2006)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Classification system
ISO 15490: 2008 (2nd version)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for tensile strength of monolithic ceramics at room temperature
ISO 15732: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for fracture toughness of monolithic ceramics at room temperature by single edge precracked beam (SEPB) method
ISO 15733: 2001 (confirmed: 2006)	Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for tensile stress-strain behaviour of continuous fibre-reinforced composites at room temperature
ISO 17092: 2005	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of corrosion resistance of monolithic ceramics in acid and alkaline solutions
ISO 17561: 2002 (confirmed: 2007)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for elastic moduli of monolithic ceramics at room temperature by sonic resonance
ISO 17562: 2001 (confirmed: 2006)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for linear thermal expansion of monolithic ceramics by push rod technique
ISO 17565: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for flexural strength of monolithic ceramics at elevated temperatures
ISO 18452: 2005	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of thickness of ceramic films by contact probe profilometer
ISO 18753: 2004 (confirmed: 2007)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of absolute density of ceramic powders by liquid pycnometer
ISO 18754: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of density and apparent porosity
ISO 18755: 2005 (under review)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of thermal diffusivity of monolithic ceramics by laser flash method
ISO 18756: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of fracture toughness of monolithic ceramics at room temperature by the surface crack in flexure (SCF) method
ISO 18757: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of specific surface area of ceramic powders by the gas adsorption using the BET method
ISO 20501: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Weibull statistics for strength data
ISO 20502: 2005	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of adhesion of ceramic coatings by scratch testing
ISO 20504: 2006	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for compressive behaviour of continuous fibre-reinforced composites at ambient temperature
ISO 20505: 2005	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for interlaminar shear strength of continuous fibre-reinforced composites at room temperature by the double-notched test pieces and Iosipescu test
ISO 20506: 2005	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for in-plane shear strength of continuous fibre-reinforced composites at room temperature by the Iosipescu test
ISO 20507: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Vocabulary
ISO 20508: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of light transmittance of ceramic thin films with transparent substrates
ISO 20509: 2003	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of oxidation resistance of non-oxide monolithic ceramics



ISO 20808: 2004	Fine ceramics (advanced ceramics, advanced technical ceramics) – Determination of friction and wear characteristics of monolithic ceramics by ball-on-disk method (confirmed: 2007)
ISO 22197-1:2007	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test methods for air purification performance of semiconducting photo- catalytic materials: Part 1: Removal of nitric oxide
ISO 22214:2006	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for cyclic bending fatigue of monolithic ceramics at room temperature
ISO 22215:2006	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for tensile creep of monolithic ceramics
ISO 23145-1:2007	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of bulk density of ceramic powders: Part. 1 Tap density
ISO 24235:2007	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of particle size distribution of ceramic powders by laser diffraction method
ISO 24369: 2005	Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of content of coarse particles in ceramic powders by wet sieving method
ISO 24370: 2005 (under review)	Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for fracture toughness of monolithic ceramics at room temperature by chevron notched beam (CNB) method



Table – 5-2 Project stages of work items (current work items)

60: Publication Stage
ISO/PRF 26424: Fine ceramics (advanced ceramics, advanced technical ceramics) – Determination of the abrasion resistance of coatings by a micro-scale abrasion test
ISO/PRF 26443: Fine ceramics (advanced ceramics, advanced technical ceramics) – Rockwell indentation test for evaluation of adhesion of ceramic coatings
50: Approval Stage
ISO/FDIS 23146: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test methods for determination of fracture toughness of monolithic ceramics – Single edge vee-notch beam (SEVNB) method
ISO/FDIS 26423: Fine ceramics (advanced ceramics, advanced technical ceramics) – Determination of coating thickness by crater grinding method
40: Enquiry Stage
ISO/DIS 26602: Fine ceramics (advanced ceramics, advanced technical ceramics) - Silicon nitride materials for rolling bearing balls
ISO/DIS 27447: Fine ceramics (advanced ceramics, advanced technical ceramics) -Test method for antibacterial activity of semiconducting photocatalytic materials
ISO/DIS 27448-1: Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for self-cleaning performance of semiconducting photocatalytic materials - Part1: Measurement of water contact angle
30: Committee Stage
ISO/CD 22197-2: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for air purification performance of semiconducting photocatalytic materials – Part 2: Removal of acetaldehyde
ISO/CD 22197-3: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for air purification performance of semiconducting photocatalytic materials – Part 3: Removal of toluene
ISO/CD 10676: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for water purification performance of semiconducting photocatalytic materials by measurement of forming ability of active oxygen
ISO/CD 10677: Fine ceramics (advanced ceramics, advanced technical ceramics) - Light source for semiconducting photocatalyst used under ultraviolet
ISO/CD 10678: Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of photocatalytic activity of surfaces in aqueous medium by degradation of methylene blue
20: Preparatory Stage
ISO/WD 28703: Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for thermal shock resistance of porous ceramics
10: Proposal Stage
00: Preliminary Stage
NP0609: Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for cyclic bending fatigue of porous ceramics at room temperature
NP0611: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for conductivity measurement of ion-conductive fine ceramics – Part 1: Oxide ion conducting solid electrolytes



Proposals before new work item vote
NP0601: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for tensile behaviour of continuous fibre-reinforced composites tubular components
NP0602: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for torsional behaviour of continuous fibre-reinforced composites tubular components
NP0603: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for flexural behaviour of continuous fibre-reinforced composites tubular components
NP0604: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for pressurized behaviour of continuous fibre-reinforced composites tubular components
NP0612: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for conductivity measurement of ion-conductive fine ceramics – Part 2: Sodium ion conducting solid electrolytes
NP0701: Fine ceramics (advanced ceramics, advanced technical ceramics) - Single cell polarization test method for solid state electrochemical cell by current interruption
NP0702: Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of bulk density of ceramic powders: Part. 2 Untapped density
NP0703: Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for surface roughness of fine ceramic films by atomic force microscopy



7. Past and future meetings

The past and future meetings of ISO/TC 206 are summarized in Table 6 in which the date of Plenary Meetings and the topics in the meetings are listed.

Table 6 - Past and future meeting of ISO/TC 206

Preliminary Meeting of ISO/TC 206	
Date: 1993-11-08	Place: Hawaii, USA
<ul style="list-style-type: none"> - Provisional title and scope were discussed. - Priority of New Work Item Proposals was discussed. 	
<i>in conjunction with the Meeting of Pacific Rim Ceramic Societies (PacRim 1)</i>	
The 1st Plenary Meeting of ISO/TC 206	
Date: 1994-05-26 and 27	Place: Tokyo, Japan
<ul style="list-style-type: none"> - WG 1, 2, 3, 4 were established. - AG (Advisory Group on Planning) was also established to discuss the priority of New Work Items. 	
Parallel Meeting:	
- Workshop on Fine Ceramics	
The 2nd Plenary Meeting of ISO/TC 206	
Date: 1995-06-01	Place: Kuala Lumpur, Malaysia
<ul style="list-style-type: none"> - WG 5 and 6 were established. - PWI 01 was established. 	
Parallel Meeting:	
- WG 1, 2, 3, 4 and AG	
- Workshop on Fine Ceramics	
The 3rd Plenary Meeting of ISO/TC 206	
Date: 1996-07-20	Place: Cairns, Australia
<ul style="list-style-type: none"> - WG 7, 8 and 9 were established. - PWI 02 was established. 	
(PWI 01 was approved to advance to WG 7.)	
Parallel Meeting:	
- WG 1, 2, 3, 4, 5, 6, PWI 01 and AG	
<i>in conjunction with the PacRim 2 Meeting</i>	
The 4th Plenary Meeting of ISO/TC 206	
Date: 1997-07-04	Place: Qingdao, P.R. China
<ul style="list-style-type: none"> - WG 10, 11 and 12 were established. - The initiation of a cooperative arrangement with CEN/TC 184 was proposed (<i>Resolution 6/1997</i>). 	
Parallel Meeting:	
- WG 1, 2, 3, 4, 5, 6, 7, 8, 9, PWI 02 and AG	
The 5th Plenary Meeting of ISO/TC 206	
Date: 1998-09-25	Place: Kyongju, Rep. of Korea
<ul style="list-style-type: none"> - WG 13, 14, 15 and 16 were established. 	
Parallel Meeting:	
- WG 2, 4, 5, 8, 10, 11, 12, PWI 02 and AG	
<i>in conjunction with the PacRim 3 Meeting</i>	
The 6th Plenary Meeting of ISO/TC 206	
Date: 1999-06-18	Place: London, United Kingdom
<ul style="list-style-type: none"> - WG 17, 18, 19, 20, 21, 22, 23 and 24 were established. - Agreement on initial steps towards the implementation of the Vienna Agreement was ratified (<i>Resolution 8/1999</i>). 	
Parallel Meeting:	
- WG 5, 8, 11, 13, 14, 15, 16, PWI 02 and AG	
- Joint Coordination Meeting between ISO/TC 206 and CEN/TC 184	
<i>in conjunction with 6th Conference of the European Ceramic Society in Brighton</i>	



The 7th Plenary Meeting of ISO/TC 206	
Date: 2000-08-18	Place: Ottawa, Canada
- WG 25 was established. - PWI 03, 04, 05 and 06 were established.	
Parallel Meeting:	
- WG 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, PWI 02 and AG - Joint Coordination Meeting between ISO/TC 206 and CEN/TC 184 <i>in conjunction with International Symposium on Ecomaterials</i>	
The 8th Plenary Meeting of ISO/TC 206	
Date: 2001-11-09	Place: Maui, Hawaii, USA
- WG 26, 27 and 28 were established. - PWI 07 and 08 were established. (PWI 02, 03 and 04 were approved to advance to WG 26, 27 and 28 respectively)	
Parallel Meeting:	
- WG 25, PWI 03 and AG - Joint Coordination Meeting between ISO/TC 206 and CEN/TC 184 <i>in conjunction with the PacRim 4 meeting</i>	
The 9th Plenary Meeting of ISO/TC 206	
Date: 2002-07-23	Place: Berlin, Germany
- AG was re-established to assist the chairman and secretariat in tasks concerning <u>coordination</u> , <u>planning</u> and <u>steering</u> of the committee's work or other specific tasks of an advisory nature. - WG 29, 30 were established. (PWI 05 and 06 were approved to advance to WG 29 and 30, respectively)	
Parallel Meeting: 2002-07-22	
- WG 26, 27, 28 and AG - Joint Coordination Meeting between ISO/TC 206 and CEN/TC 184	
The 10th Plenary Meeting of ISO/TC 206	
Date: 2003-10-03	Place: Nagoya, Japan
- WG 31, 32 and 33 were established. (PWI 07 and 08 were approved to advance to WG 31 and 32, respectively)	
Parallel Meeting: 2003-10-02	
- WG 29, 30, 31, 32 and AG - Joint Coordination Meeting between ISO/TC 206 and CEN/TC 184 <i>in conjunction with the PacRim 5 meeting</i>	
The 11th Plenary Meeting of ISO/TC 206	
Date: 2004-07-16	Place: Leuven, Belgium
- WG 34 and 35 were established.	
Parallel Meeting: 2004-07-15	
- WG 33 and AG <i>in conjunction with 8th International Symposium on Multifunctional and Functionally Graded Materials</i>	
The 12th Plenary Meeting of ISO/TC 206	
Date: 2005-09-16	Place: Maui, Hawaii, USA
- WG 36, 37 and 38 were established.	
Parallel Meeting: 2005-09-15	
- WG 34, 35 and AG <i>in conjunction with the PacRim 6 meeting</i>	
The 13th Plenary Meeting of ISO/TC 206	
Date: 2006-07-21	Place: Jakarta, Indonesia
- WG 39, 40 and 41 were established.	
Parallel Meeting: 2006-07-20	
- WG 36, 37, 38 and AG <i>in conjunction with Workshop on 2006-07-19</i>	
The 14th Plenary Meeting of ISO/TC 206	
Date: 2007-06-15	Place: Berlin, Germany
Parallel Meeting: 2007-06-14	
- WG 37, 39, 40, 41 and AG <i>in conjunction with the 10th Euro. Ceram. Soc. Conference</i>	



Secretariat of ISO/TC 206
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The 15th Plenary Meeting of ISO/TC 206

Date: 2008-10-17 **Place:** Seoul, Rep. of Korea

Parallel Meeting: 2008-10-16

- WG and AG

in conjunction with Workshop on 2008-10-15 (provisional)