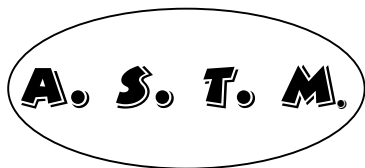


Advanced Ceramic Sentinel



Committee C28 on Advanced Ceramics

January 2007

Scope of Committee C28

The promotion of knowledge, stimulation of research and development of standards (classifications, specifications, nomenclature, test methods, guides, and practices) relating to processing, properties, characterization, and performance of advanced ceramic material.

This committee works in concert with other technical committees (e.g., D30 "Composite Materials," E07 "Non Destructive Testing," E08 "Fatigue and Fracture," E28 "Mechanical Testing," F04 "Medical and Surgical Materials and Devices", and G02 "Wear and Erosion") and other national and international organizations having mutual or related interests.

What Committee C28 Does

Committee C28 facilitates the development of standards for monolithic and composite advanced ceramics. An advanced ceramic is a highly-engineered, high-performance predominately non-metallic, inorganic, ceramic material having specific functional attributes. The standards cover methods for testing bulk and constituent (powders, fibres, etc.) properties, thermal and physical properties, strengths and strength distributions, and performance under varying environmental, thermal, and mechanical conditions. The scope of application of the methods ranges from quality control through design data generation. The Committee's primary concern is the development of technically rigorous standards which are still accessible

to the general industrial laboratory and consequently are widely accepted and used in engineering applications that utilize advanced ceramics.

While the committee's roots are in energy-related industries and programs, C28 supports the needs of automotive, aerospace, electronic, medical and other industries requiring advanced ceramics. Some specific applications include nano-ceramics, bio-ceramics, coatings, electronics, sensors/actuators, porous substrates and fuelcells. C28 actively pursues standards development to support the associated materials characterization needs.

Committee C28 coordinates its work with other organizations with mutual interests in advanced ceramics. Sometimes, C28 documents are developed jointly with other groups. The membership represents an international group of people interested in furthering advanced ceramic technology.

In addition to standards development, C28 sponsors symposia providing a forum for the timely transfer of technical information relevant to the design, analysis, processing, fabrication, and characterization of monolithic and composite advanced ceramics. Special workshops and technical presentations are often held to identify specific industrial needs and support the technical development of new standards.

The Committee meets regularly twice a year in different cities throughout the United States and Canada. The Committee is self-regulated by committee-approved [by-laws](#) under the auspices of ASTM International

COMMITTEE C28 "ADVANCED CERAMICS"

Chair: Stephen Gonczy, Gateway Materials Technologies
Vice Chair: Kristin Breder, Saint Gobain Abrasives
Recording Secretary: Michael Jenkins, Univ. of Detroit Mercy
Membership Secretary: Devdas Pai, NC A & T State Univ.

C28.90
Executive

C28.92
Education/Outreach

C28.93
Awards

C28.94
ISO TC206 (ANSI TAG)

C28.95
Long Range Planning

C28.01
Mechanical
Properties and
Performance

C28.02
Reliability

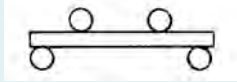
C28.03
Physical
Properties and
Performance

C28.04
Applications

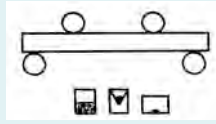
C28.07
Ceramic
Matrix
Composites

C28.91
Nomenclature
and
Editorial

Monolithics (Subcommittee C28.01)



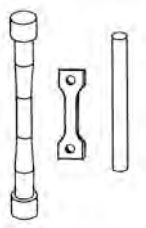
- C 1161 Flexure Strength
- C 1211 Flexure Strength (H. T.)
- C 1368 Dynamic Fatigue (SCG)
- C 1465 Dynamic Fatigue (SCG) (H.T.)
- C 1576 Static Fatigue (SCG)



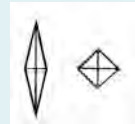
- C 1421 Fracture Toughness



- C 1322 Fractography



- C 1424 Compression Strength

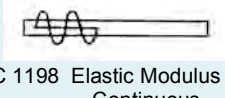


- C 1326 Knoop Hardness
- C 1327 Vickers Hardness

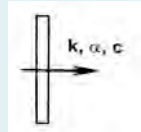
- C 1273 Tension Strength
- C 1366 Tension Strength (High T.)
- C 1291 Creep, Creep Rupture
- C 1361 Cyclic Fatigue



- C 1499 Biaxial Strength



- C 1198 Elastic Modulus - Continuous
- C 1259 Elastic modulus - Impulse



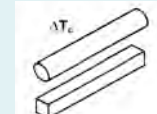
- C 1470 Thermal Guide



- C 1323 C-ring Strength



- C 1495 Grinding



- C 1525 Thermal Shock

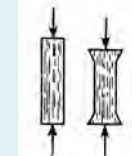
Ceramic Matrix Composites (Subcommittee C28.07)



- C 1275 Tension Strength
- C 1359 Tension Strength (High T.)
- C 1337 Creep, Creep Rupture
- C 1360 Cyclic Fatigue



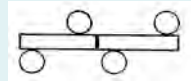
- C 1468 Tension - Trans Thickness



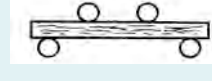
- C 1358 Compression



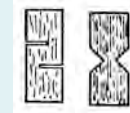
- C 1557 Tensile Strength and Elastic Modulus of Fibres



- C 1469 Joint Strength



- C 1341 Flexure Strength

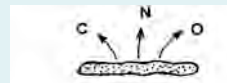


- C 1292 Shear Strength
- C 1425 Shear Strength (High T.)

Powders (Subcommittee C28.03)

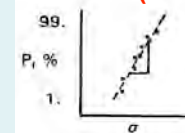


- C 1251 Particle Size, BET Guide
- C 1274 Particle Size, BET
- C 1282 Particle Size, Centrifugal Sed.



- C 1494 C, N, O in Silicon Nitride

NDE and Design (Subcommittee C28.02)



- C 1239 Weibull



- C 1331 Ultrasonic Velocity
- C 1332 Ultrasonic Attenuation



- C 1175 NDE Guide



- C 1212 Seeded Voids
- C 1336 Seeded Inclusions

Terms, Classification, Education (Subcommittees C28.91 & C28.92)



- STP 1201 Life Prediction
- STP 1309 Composites
- STP 1392 Composites
- STP 1409 Fracture



- C 1145 Terminology
- C 1286 Classification

Graphical illustration of standards under the jurisdiction of Committee C28
(Note: CXXXX refers to a specific standard, STPXXXX refers to Standard Technical Publication)

Subcommittee Details

C28.01 Mechanical Properties & Performance

C28.01 Chair:

[Stephen T. Gonczy](#)

Gateway Materials Technology, Inc.
221 South Emerson
Mount Prospect, IL 60056 U.S.A.
Tel: 847-870-1621; Fax: 847-870-1624
e-mail: gatewaymt@aol.com

C28.01 Scope:

Develops standards for mechanical properties and performance of monolithic advanced ceramics in a number of areas including flexural strength, tensile strength, compressive strength, cyclic fatigue, creep and creep rupture, hardness, and fracture toughness.

C28.01 Standards*:

[C1161-02b \(90\)](#) Test Method for Flexural Strength of Advanced Ceramics at Ambient Temperature

[C1198-01 \(91\)](#) Test Method for Dynamic Young's Modulus, Shear Modulus, and Poisson's Ratio for Advanced Ceramics by Sonic Resonance

[C1211-02 \(92\)](#) Test Method for Flexural Strength of Advanced Ceramics at Elevated Temperature

[C1259-01 \(94\)](#) Test Method for Dynamic Young's Modulus, Shear Modulus, and Poisson's Ratio for Advanced Ceramics by Impulse Excitation of Vibration

[C1273-05 \(94\)](#) Test Method for Tensile Strength of Monolithic Advanced Ceramics at Ambient Temperatures

[C1291-00A](#) Test method for Elevated Temperature Tensile Creep Strain, Creep Strain Rate, and Creep Time-to-Failure for Advanced Monolithic Ceramics

[C1326-03 \(96\)](#) Test Method for Knoop Indentation Hardness of Advanced Ceramics

[C1327-03 \(96\)](#) Test Method for Vickers Indentation Hardness of Advanced Ceramics

[C1361-01 \(96\)](#) Practice for Constant-Amplitude, Axial, Tension-Tension Cyclic Fatigue of Advanced Ceramics at Ambient Temperatures

[C1366-04 \(97\)](#) Test Method for Tensile Strength of Monolithic Advanced Ceramics at Elevated Temperatures

[C1368-06 \(97\)](#) Test Method for Determination of Slow Crack Growth Parameters of Advanced Ceramics by Constant Stress-Rate Flexural Testing at Ambient Temperature

[C1421-01B \(99\)](#) Test Methods for the Determination of Fracture Toughness of Advanced Ceramics

[C1424-04 \(99\)](#) Test Method for Compressive Strength of Monolithic Advanced Ceramics at Ambient Temperatures

[C1465-00](#) Test Method for Determination of Slow Crack Growth Parameters of Advanced Ceramics by Constant Stress-Rate Flexural Testing at Elevated Temperature

[C1499-05 \(02\)](#) Test Method for Monotonic Equibiaxial Flexural Strength Testing of Advanced Ceramics at Ambient Temperature

[C1525-04 \(02\)](#) Test Method for Determination of Thermal Shock Resistance for Advanced Ceramics by Water Quenching

[C1576-05](#) Test Method for Determination of Slow Crack Growth Parameters of Advanced Ceramics by Constant Stress Flexural Testing (Stress Rupture) at Ambient Temperature

*-XX indicates year of current version, (XX) indicates year of approval if different than -XX

C28.02 Reliability

C28.02 Chair:

[Stephen F. Duffy](#)

Cleveland State University
Civil Engineering Department, 114 Stilwell Hall
Cleveland, OH 44115 U.S.A.
Tel: 216-687-3874; FAX: 954-301-3740
e-mail: sduffy@crtechnologies.com
website: www.CeramicReliability.com

C28.02 Scope:

Develops standards in support of reliability assessment methods for both short and long term durability of advanced ceramics.

C28.02 Standards:

[C1175-99A \(91\)](#) Guide to Test Methods for Nondestructive Testing of Advanced Ceramics

[C1212-98 \(92\)](#) Practice for Fabricating Ceramic Reference Specimens Containing Seeded Voids

[C1239-06A \(93\)](#) Practice for Reporting Uniaxial Strength Data and Estimating Weibull Distribution Parameters for Advanced Ceramics

[C1322-05B \(96\)](#) Practice for Fractography and Characterization of Fracture Origins in Advanced Ceramics

[C1336-96](#) Practice for Fabricating Non-Oxide Ceramic Reference Specimens Containing Seeded Inclusions

[C1495-06 \(01\)](#) Test Method for Effect of Surface Grinding on Flexure Strength of Advanced Ceramics

C28.03 Physical Properties & Performance

C28.03 Chair:

Open

C28.03 Scope:

Develops standards for physical, chemical, and micro-structural characterization of powder and bulk advanced ceramics.

C28.03 Standards:

[C1251-95 \(93\)](#) ~~Withdrawn 2001~~ Guide for Determination of Specific Surface Area of Advanced Ceramics by Gas Adsorption

[C1274-00 \(94\)](#) Test Method for Advanced Ceramic Specific Surface Area by Physical Adsorption

[C1282-00 \(95\)](#) Test Method for Determination of Particle Size Distribution of Advanced Ceramics by Centrifugal Photosedimentation

[C1331-01 \(96\)](#) Practice for Measuring Ultrasonic Velocity in Advanced Ceramics with the Broadband Pulse-Echo Cross-Correlation Method

[C1332-01 \(96\)](#) Test Method for Measurement of Ultrasonic Attenuation Coefficients of Advanced Ceramics by the Pulse-Echo Contact Technique

[C1470-06 \(00\)](#) Guide for Testing the Thermal Properties of Advanced Ceramics

[C1494-01](#) Test Method for Determination of Mass Fraction of Carbon, Nitrogen, and Oxygen in Silicon Nitride Powder

C28.04 Applications

C28.04 Chair:

Dave Carruthers
Dave Carruthers & Associates
10507 NE 269 St.
Battle Ground, WA 98604 USA
Tel: 360-687-7563
e-mail: dave@davecarruthers.net

C28.04 Scope:

Develops standards (including guides, specifications, practices, test methods) for various engineering applications of advanced ceramics as required.

C28.04 Task Groups

- C28.04.01 Nano-ceramics
- C28.04.02 Coatings
- C28.04.03 Electronics
- C28.04.04 Porous
- C28.04.05 Fuel cells
- C28.04.06 Armor
- C28.04.07 Sensors/actuators
- C28.04.08 Thermal Systems

[C1323-96](#) Test Method for Ultimate Strength of Advanced Ceramics with Diametrically Compressed C-Ring Specimens at Ambient Temperature

[C1624-05](#) Test Method for Adhesion Strength and Mechanical Failure Modes of Ceramic Coatings by Quantitative Single Point Scratch Testing

C28.07 Ceramic Matrix Composites

C28.07 Chair:

[Yutai Katoh](#)
Oak Ridge National Laboratory
Nuclear Material Science and Technology Group
Materials Science and Technology Division
P.O. Box 2008, MS 6138
Oak Ridge, TN 37831-6138 U.S.A.
Tel: 865-576-5996; Fax: 865-241-3650
e-mail: katohy@ornl.gov

C28.07 Scope:

Develops standards for determination of the thermo-mechanical properties and performance of ceramic matrix composites including tension, compression, shear, flexure, cyclic fatigue, creep/creep rupture, ceramic fibers, interfacial properties, thermo-mechanical fatigue, environmental effects, and structural/component testing.

C28.07 Standards:

[C1275-00 \(94\)](#) Test Method for Monotonic Tensile Behavior of Continuous Fiber-Reinforced Advanced Ceramics with Solid Rectangular Cross-Section at Ambient Temperatures

[C1292-00 \(95\)](#) Test Method for Shear Strength of Continuous Fiber-Reinforced Advanced Ceramics at Ambient Temperatures

[C1337-96](#) Test Method for Creep and Creep Rupture of Continuous Fiber-Reinforced Ceramic Composites under Tensile Loading at Elevated Temperature

[C1341-06 \(96\)](#) Test Method for Flexural Properties of Continuous Fiber-Reinforced Advanced Ceramic Composites

[C1358-05 \(96\)](#) Test Method for Monotonic Compressive Strength Testing of Continuous Fiber-Reinforced Advanced Ceramics with Solid Rectangular Cross-Section Specimens at Ambient Temperatures

[C1359-05 \(96\)](#) Test Method for Monotonic Tensile Strength Testing of Continuous Fiber-Reinforced Advanced Ceramics with Solid Rectangular Cross-Section Specimens at Elevated Temperatures

[C1360-01\(96\)](#) Practice for Constant-Amplitude, Axial, Tension-Tension Cyclic Fatigue of Continuous Fiber-Reinforced Advanced Ceramics at Ambient Temperatures

[C1425-05 \(99\)](#) Test Method for Interlaminar Shear Strength of 1-D and 2-D CFCCs at Elevated Temperatures

[C1468-06 \(00\)](#) Test Method for Transthickness Tensile Strength of Continuous Fiber-Reinforced Advanced Ceramics at Ambient Temperatures

[C1469-00](#) Test Method for Shear Strength of Joints of Advanced Ceramics at Ambient Temperature

[C1557-03E \(01\)](#) Test Method for Tensile Strength and Young's Modulus Fibers

[D3379-89 \(75\)](#) **Withdrawn 1999** Test Method for Tensile Strength and Young's Modulus of High Modulus Single Filament

C28.90 Executive Subcommittee

C28.90 Chair:

[Stephen T. Gonczy](#)
Gateway Materials Technology, Inc.
221 South Emerson
Mount Prospect, IL 60056 U.S.A.
Tel: 847-870-1621; Fax: 847-870-1624
e-mail: gatewaymt@aol.com

C28.90 Scope:

Manages administrative matters of main committee C28 through its membership comprised of the committee and subcommittee officers of C28.

C28.91 Nomenclature and Editorial

C28.91 Chair:

[Jonathan A. Salem](#)
NASA-Glenn Research Center
Life Prediction Branch, MS 49-7
21000 Brookpark Road
Cleveland, OH 44135 U.S.A.
Tel: 216-433-3313; Fax: 216-977-7051
e-mail: Jonathan.A.Salem@grc.nasa.gov

C28.91 Scope:

Compiles nomenclature and terminology used in the various standards of C28.

C28.91 Standards:

[C1145-06 \(91\)](#) Terminology on Advanced Ceramics

[C1286-94](#) **Withdrawn 2001** Classification Advanced Ceramics

C28.92 Education and Outreach

C28.92 Chair:

[Jonathan A. Salem](#)
NASA-Glenn Research Center
Life Prediction Branch, MS 49-7
21000 Brookpark Road
Cleveland, OH 44135 U.S.A.
Tel: 216-433-3313; FAX: 216-977-7051
e-mail: Jonathan.A.Salem@grc.nasa.gov

C28.92 Scope:

Develops and supports efforts for outreach and education for the committee.

C28.92 Documents:

[Advanced Ceramic Sentinel](#)
Website: www.advancedceramicstandards.org

C28.93 Awards

C28.93 Chair:

[Kristin Breder](#)
Saint Gobain Abrasives
One Bond Street, P.O. Box 15008
Worcester, MA 01615 U.S.A.
Tel: 508-795-4147; Fax: 508-795-4283
e-mail: Kristin.Breder@saint-gobain.com

C28.93 Scope:

Accepts/acts on nominations for various awards

C28.94 ISO TC206 TAG

C28.94 Acting Chair:

[Michael G. Jenkins](#)

University of Detroit Mercy
Department of Mechanical Engineering
4001 W. McNichols Rd
Detroit, MI 48221 U.S.A.
Tel: 313-993-1579; Fax: 313-993-1187
e-mail: jenkinsm@udmercy.edu

C28.94 Scope:

Acts as the Technical Advisory Group (TAG) to the American National Standards Institute (ANSI) on international standards for ceramics. Coordinates C28 activities with the International Organization for Standardization (ISO) Technical Committee (TC) 206 on Fine (Technical, Advanced) Ceramics.

ISO/TC206 Standards:

ISO 14703: 2000, Fine ceramics (advanced ceramics, advanced technical ceramics) - Sample preparation for the determination of particle size distribution of ceramic powders

ISO 14704: 2000, Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for flexural strength of monolithic ceramics at room temperature

ISO 14705: 2000, Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for hardness of monolithic ceramics at room temperature

ISO 15165: 2001, Fine ceramics (advanced ceramics, advanced technical ceramics) - Classification system

ISO 15490: 2000, 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, Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for tensile stress-strain behaviour of continuous fibre-reinforced composites at RT

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, Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for elastic moduli of monolithic ceramics at room temperature by sonic resonance

ISO 17562: 2001, 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, 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, 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 losipescu 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 losipescu 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

ISO 24370: 2005, Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for fracture toughness of monolithic ceramics at room temperature by chevron notched beam (CNB) method

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 24369:2006 Fine ceramics (advanced ceramics, advanced technical ceramics) – Determination of content of coarse particle in ceramic powders by wet sieving methods

ISO 24370:2006 Fine ceramics (advanced ceramics, advanced technical ceramics) – Test method for fracture toughness of monolithic ceramics at room temperature by chevron notched beam (CNB) method

C28.95 Long Range Planning

C28.95 Chair:

[Kristin Breder](#)

Saint Gobain Abrasives
One Bond Street, P.O. Box 15008
Worcester, MA 01615 U.S.A.
Tel: 508-795-4147; Fax: 508-795-4283
e-mail: Kristin.Breder@saint-gobain.com

C28.95 Scope:

Proposes, facilitates and promotes long range planning activities consistent with the mission, goals and objectives of the Committee and its subcommittees.

Documents:

[Committee C28 Strategic Plan](#)

Symposia Publications

- [STP 1201](#) Life Prediction Methodologies and Data for Ceramic Materials
- [STP 1309](#) Thermal and Mechanical Test Methods and Behavior of Continuous-Fiber Ceramic Composites
- [STP 1392](#) Mechanical, Thermal and Environmental Testing and Performance of Ceramic Composites and Components
- [STP 1409](#) Fracture Resistance Testing of Monolithic and Composite Brittle Materials

Future Meetings

Committee C28

2007 January 20-21
In conjunction w/ ACerS Intern'l Meeting
Daytona Beach, FL

Week of 2007 June 18
Teleconference
Contact Staff Manager for Details

ISO/TC206

2007 June 14-15
Berlin, Germany

Main Committee Officers

Chair

[Stephen T. Gonczy](#)

Gateway Materials Technology, Inc.
221 South Emerson
Mount Prospect, IL 60056 U.S.A.
Tel: 847-870-1621; Fax: 847-870-1624
e-mail: gatewaymt@aol.com

Vice Chair

[Kristin Breder](#)

Saint Gobain Abrasives
One Bond Street, P.O. Box 15008
Worcester, MA 01615 U.S.A.
Tel: 508-795-4147; Fax: 508-795-4283
e-mail: Kristin.Breder@saint-gobain.com

Recording Secretary

[Michael G. Jenkins](#)

University of Detroit Mercy
Department of Mechanical Engineering
4001 W. McNichols Rd
Detroit, MI 48221 U.S.A.
Tel: 313-993-1579; Fax: 313-993-1187
e-mail: jenkinsm@udmercy.edu

Membership Secretary

[Devdas Pai](#)

North Carolina A & T State University
602 McNair Hall
Dept. of Mechanical Engineering, 160
Greensboro, NC 27411 U.S.A.
Tel: 336-334-7620-X316; Fax: 336-334-7417
e-mail: pai@ncat.edu

ASTM Staff Manager

Joe Koury
ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959 U.S.A.
Tel: 610-832-9804; FAX: 610-832-7033
e-mail: jkoury@astm.org

ASTM Administrative Assistant

Kelly Ann Paul
ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959 U.S.A.
Tel: 610-832-9712; FAX: 610-832-9666
e-mail: kpaul@astm.org

Members at Large

John Gyekenyesi
NASA-Glenn Research Center
Life Prediction Branch, MS 49-7
21000 Brookpark Road
Cleveland, OH 44135 U.S.A.
Tel: 216-433-3210; FAX: 216-433-8300
e-mail: john.p.gyekenyesi@grc.nasa.gov

John Helfinstine
Corning Inc
Sullivan Park. SP-FR-4
Corning, NY 14831 U.S.A.
Tel: 607-974-3276; Fax: 607-974-2166
e-mail: helfinstjd@corning.com

Roger Morrell
National Physical Laboratory
Centre for Materials Management and Technology
Teddington, Middlesex, TW11 0LW, U.K.
Tel: +44 20 8943 6381; FAX: +44 20 8943 2989
e-mail: roger.morrell@npl.co.uk

George D. Quinn
National Institute of Standards and Technology
Ceramics Division
Building 223, Room A329
Gaithersburg, MD 20899 U.S.A.
Tel: 301-975-5765; FAX: 301-990-8729
e-mail: geoq@nist.gov

ISO/TC 206 Secretary

[Shuji Sakaguchi](#)

Secretary of ISO/TC 206
Research Institute of Instrumentation Frontier
National Institute of Advanced Industrial Science and
Technology
2266-98, Shimo-Shidami, Moriyama-ku, Nagoya
463-8560, JAPAN
Tel: +81-52-736-7219 FAX: +81-52-736-7224
e-mail: s.sakaguchi@aist.go.jp