ASTM Committee B09 - Metal Powders and Metal Powder Products
Seventy-Five-Year History

The formation of a standing committee on metal powders and metal powder products resulted from numerous suggestions to the Society that standardization was needed in the fast-growing powder metallurgy field, particularly to cover satisfactory methods of evaluating the unique essential properties of both the powders and the resulting compacts and finished parts. The members of the Society in the Buffalo area sponsored a Symposium on Powder Metallurgy, in Buffalo, NY, on March 3, 1943, with a resulting publication comprising the papers and discussion presented at the symposium. In view of the interest shown and in response to requests that work in this field be undertaken, a special study committee met in New York, NY on July 22, 1943, under the chairmanship of J.R. Townsend, reviewed the situation, and recommended to the ASTM Executive Committee that a standing committee on powder metallurgy be organized, which recommendation was approved with the following scope of activities:

Scope
The formulation of specifications and methods for metal powders and metal powder products.

W.A. Reich, General Electric Co., and W.R. Toeplitz, Bound Brook Oil-Less Bearing Co., were appointed temporary chairman and temporary secretary, and an organizational meeting was held in New York, NY on February 22, 1944.

In order to adequately cover the various phases of powder metallurgy, the following subcommittee structure was approved:
- Subcommittee I on Nomenclature and Technical Data
- Subcommittee II on Metal Powders
- Subcommittee III on Metal Powder Products
  - Subsection:
    - Bearings
    - Structural Parts
    - Cemented Carbides
    - Friction Materials
    - Electrical Parts

The later-named Subcommittee B09.07 on Friction Materials was subsequently disbanded in 1990 when these materials no longer fully utilized powder metallurgy materials and processes.

In 1985, Subcommittees B09.11 on Near Full Density Powder Metallurgy Materials (including powder forged and injection molded materials), and Subcommittee B09.12 on Rapidly Solidified Materials, were formed to address the standardization needs of these emerging technologies. After a short time, Subcommittee B09.12 was disbanded as this technology did not burgeon and no new standardization needs were identified.

B09 has maintained a liaison relationship with Committee E29 on Powder and Spray Characterization for many years, due to the obvious overlap of interest between the two committees. Recently, B09 liaison with the new Committee F42 on Additive Manufacturing was established, as this new technology uses many of B09's standards. Most recently, B09 and F42 launched a new proficiency testing program for Additive Manufacturing and Powder Metallurgy to address new uses of metal powders. B09 also maintains a loose liaison with Committee A01 on Steel, Stainless Steel and Related Alloys, which are sometimes produced by powder metallurgy methods.

Subcommittee B09.09, the U.S. Technical Advisory Group to ISO Technical Committee 119 on Powder Metallurgy, was formed in 1993. This subcommittee initially provided representation at TC119 meetings through volunteer retiree members of B09, with travel generously funded by the Metal Powder Industries Federation (MPIF). B09.09 now continues active U.S. representation in ISO via company-sponsored volunteers, with MPIF providing ISO participation fees.

Over the years, the subcommittee structure has transformed into the 8 current technical subcommittees:
- B09.01 Nomenclature and Technical Data
- B09.02 Base Metal Powders
- B09.03 Refractory Metal Powders
- B09.04 Bearings
- B09.05 Structural Parts
- B09.06 Cemented Carbides
- B09.09 US TAG for ISO/TC 119 on Powder Metallurgy
- B09.11 Near Full Density Powder Metallurgy Materials

B09 Elected Officers Timeline, 1944-Present

<table>
<thead>
<tr>
<th>Chairman</th>
<th>First Vice-Chairman</th>
<th>Second Vice-Chairman</th>
<th>Membership Secretary</th>
<th>Assistant Secretary</th>
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<tbody>
<tr>
<td>W.A. Reich</td>
<td>1944-53</td>
<td>W.R. Toeplitz</td>
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<td></td>
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<td>Alexander Squire</td>
<td>1948-50</td>
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<td></td>
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<td>F.V. Lenel</td>
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<td>W.R. Toeplitz</td>
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1940 1950 1960
First Standards

A tentative Specification for Metal Powder Sintered Bearings (Oil Impregnated), B202, one of the first B09 published standards, was replaced by what is now known as B439 Standard Specification for Iron-Base Powder Metallurgy (PM) Bearings (Oil-Impregnated).

Four of the original B09 test methods published in 1946 are still active within B09:
– B212-17 Standard Test Method for Apparent Density of Free-Flowing Metal Powders Using the Hall Flowmeter Funnel
– B213-17 Standard Test Methods for Flow Rate of Metal Powders Using the Hall Flowmeter Funnel
– B214-16 Standard Test Method for Sieve Analysis of Metal Powders

Newer standards published within B09 include:
– B963-17 Standard Test Methods for Oil Content, Oil-Impregnation Efficiency, and Surface-Connected Porosity of Sintered Powder Metallurgy (PM) Products Using Archimedes’ Principle
– B964-16 Standard Test Methods for Flow Rate of Metal Powders Using the Carney Funnel
– B988-18 Standard Specification for Powder Metallurgy (PM) Titanium and Titanium Alloy Structural Components

Committee B09 currently has 58 published standards. New uses for metal powders continue to challenge the committee to think about new areas in need of standardization.

B09 Leadership

B09 has been fortunate to have had excellent leadership throughout its history. The Chairman of B09 is limited to three consecutive two-year terms and most chairmen have served consecutive terms which resulted in significant longevity within the Chairman position.

Of special note is the fact that Subcommittee B09.11 on Near Full Density Powder Metallurgy Materials has had only one chairman, W. Brian James, since its inception in 1985, and that Subcommittee B09.03 on Refractory Metal Powders has had only two chairmen in its entire history, Bill Buerkel to 1992 and Frank Venskys since 1992.

Several B09 members served in various other ASTM capacities and leadership opportunities furthering the mission of the Society. Frank Venskys served a term on our Committee on Standards (COS) in 2000-2002 followed by Sherri Bingert serving in 2005-2007. Tony Thornton served a term as a member on COS in 2008-2010 and on our Board of Directors in 2011-2013. Mike Brisson served a term on COS in 2016-2018. Frank Venskys also served a term on the Award of Merit Committee (which meets annually to select award recipients from the list of submitted nominations) in 2007-2009.
**Membership Awards**

ASTM has established a set of awards to recognize members for their accomplishments. These awards are presented to members, typically at one of the semi-annual meetings, after nomination by their peers. ASTM International Society Awards are created by the ASTM International Board of Directors to meet specific recognition needs which have broad applications to the overall Society and therefore cannot be addressed by individual technical committees.

**Award of Merit**
The Award of Merit was established in 1949 by the ASTM International Board of Directors and is the highest society award granted to an individual member for distinguished service and outstanding participation in the ASTM International committee activities. Recipients also receive the honorary title of fellow.

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<td>Leander F. Pease</td>
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<td>Sherri R. Bingert</td>
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<td>2018</td>
<td>Joseph Tauber</td>
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**Frank W. Reinhart Award**
This Society Recognized Award is administered through the ASTM Committee on Standards (COS) and is given to a technical committee, subcommittee, or ASTM International member who has made an outstanding and unusual contribution to ASTM International in the area of terminology standardization.

<table>
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**Service Award**

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**Howard Sanderow Memorial Award for Meritorious Service**

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<tr>
<td>2009</td>
<td>Howard Sanderow</td>
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### Committee Members

- **ASTM Committee B09 - Metal Powder and Metal Powder Products**
  - 1990 - 1992: J. C. Webster
  - 1982-88: J. D. Knox
  - 1979-81: M. Feir
  - 1988-92: J. W. Kratofil
  - 1996-2000: J. W. Kratofil
  - 1994-96: A. W. Thornton
  - 1998-99: G. J. Wolfe
  - 2000-2005: D. B. Christopherson
  - 1996-2000: F. J. Venskytis
  - 1999-2002: F. J. Venskytis
  - 1988-94: J. W. Kratofil
  - 2004-2005: F. J. Venskytis
  - 1980-86: L. F. Pease III
  - 1980-84: A. B. Backenstö
  - 1984-86: J. C. Webster
  - 1986-92: J. C. Webster
  - 1988-94: J. W. Kratofil
  - 1990-92: J. P. Cook
  - 1994-96: J. P. Cook
  - 1996-2000: J. W. Kratofil
  - 1998-99: F. J. Venskytis
  - 2000-2002: F. J. Venskytis
  - 2009-2010: J. W. Kratofil
  - 2010-2015: F. J. Venskytis
  - 2015-2018: J. W. Kratofil

### Award of Merit Recipients

- **1958**: Fritz V. Lenel
- **1960**: William A. Reich
- **1962**: Frederick N. Rhines
- **1964**: Carl G. Johnson
- **1965**: Joseph L. Bonanno
- **1978**: William A. Buerman
- **1985**: Norbert A. Arnold
- **1986**: Athan Stosuy
- **1987**: Arthur B. Backensto
- **1989**: Leander F. Pease
- **1991**: William C. Muller
- **1994**: J. Charles Webster
- **1996**: Victor C. Straub
- **1999**: James W. Kratofil
- **2000**: Frank J. Venskytis
- **2001**: W. Brian James
- **2004**: Anthony W. Thornton
- **2010**: Harry D. Ambs
- **2011**: Craig W. Hudson
- **2015**: Sherri R. Bingert
- **2018**: Joseph Tauber

### James A. Thomas President’s Leadership Award

The ASTM President’s Leadership Award was established by the ASTM Board of Directors in 2007 to recognize extraordinary leadership within the first five years of an individual’s association with ASTM International. This award is to acknowledge individuals who, early in their ASTM career, have significantly advanced the Society’s mission through extraordinary accomplishment, example, and vision. The Award signifies the promise of continued success of ASTM International, made possible through the inspiration and positive contributions of new volunteers.

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>2015</td>
<td>J. A. Thomas President’s Leadership Award</td>
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<tr>
<td>2015</td>
<td>Jane LaGoy</td>
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<tr>
<td>2017</td>
<td>Frank W. Reinhart Award</td>
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<td>2017</td>
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<td>Howard Sanderow</td>
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<tr>
<td>2018</td>
<td>Michael J. Brisson</td>
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</tbody>
</table>
### Award of Appreciation
- 1998: Harry D. Ambs
- 1998: William Q. Judge
- 1999: Leander F. Pease
- 2000: James W. Kratofil
- 2002: Pat Picariello
- 2004: Vernon C. Potter
- 2005: Craig W. Hudson
- 2005: Norbert A. Arnold
- 2005: William A. Buerkel
- 2005: W. Brian James
- 2006: Harry D. Ambs
- 2006: William Q. Judge
- 2006: Erhard Klar
- 2006: James W. Kratofil
- 2006: Michael P. Schoder
- 2007: Denis B. Christopherson
- 2008: Thomas M. Kennedy
- 2009: William A. Buerkel
- 2012: Craig W. Hudson
- 2018: Roland T. Warzel III

### Award of Recognition

#### Award of Merit Committee
- 2009: Frank J. Venskytis

### Distinguished Service Award
- 1994: Fritz V. Lenel
- 1999: William A. Buerkel
- 2000: Arthur B. Backensto
- 2001: O. W. Reen
- 2001: Anthony W. Thornton
- 2002: Erhard Klar
- 2005: Dale R. Peterson
- 2006: William A. Buerkel
- 2008: Sherri R. Bingert
- 2012: Harry D. Ambs
- 2013: W. Brian James
- 2013: Thomas M. Kennedy
- 2014: Roland T. Warzel III
- 2015: Dale R. Peterson
- 2015: Joseph Tauber
- 2017: Tessa F. Stillman

### 50-Year Service Award

#### Honorary B09 Membership
- 2003: William A. Buerkel
- 2003: Norbert A. Arnold

### Anniversary Milestones

#### 50 years
- Leander F. Pease

#### 40 years
- Dale R. Peterson
- Cynthia L. Freeby

#### 35 years:
- Frank Venskytis

#### 30 years
- W. Brian James
- Kenneth H. Moyer
- Suresh Shah
- Michael Pohl
- Michael P. Marra

#### 25 years
- Tony Thornton
- Craig Hudson

#### 20 years
- Sherri R. Bingert
- Michael P. Schoder
- Peter G. Blaine
- Denis B. Christopherson
- Douglas Pease
- Joseph Tauber

#### 15 years
- Bart J. Nelson
- David Milligan
- James K. Wimer
- Daniel Merritt
- Matthias Thommens
- Peter A. Desoutylo
- Tessa F. Stillman
- Carl J. Dorsch
- Vinay M. Desai
- Thomas M. Kennedy

#### 10 years
- Haijun Wang
- Thomas Pfingstler
- Roland T. Warzel III
- Lin Cheng
- Tesfaye Tefera
- John Barr
- Charles G. Thibault
- John A. Shields

#### 5 years
- Jane LaGoy
- Christine L. Mahlon
- Michael L. Mihalec
- Jeremy Koth
- Rene M. Cooper
- Nelson Bairos
- Guohong Xiao
- Wen Gao
- Akhiro Sat
- Dennis N. Scharr
- Trent R. Smith
- Erdem A. Ural
- Paul Reinert
- Joseph T. Strauss
- Scott L. Davis
- Ian W. Donaldson
- Michael J. Brison
- Pengyue Zhang
- Aderemi Olajide
- Mark B. James
- Kevin Bauer
- Caitlin Farrell

### The following active members have served on Committee B09 for at least the number of years indicated below:

#### 5 years
- Jane LaGoy
- Christine L. Mahlon
- Michael L. Mihalec
- Jeremy Koth
- Rene M. Cooper
- Nelson Bairos
- Guohong Xiao
- Wen Gao
- Akhiro Sat
- Dennis N. Scharr
- Trent R. Smith
- Erdem A. Ural
- Paul Reinert
- Joseph T. Strauss
- Scott L. Davis
- Ian W. Donaldson
- Michael J. Brison
- Pengyue Zhang
- Aderemi Olajide
- Mark B. James
- Kevin Bauer
- Caitlin Farrell
Meeting Locations

Since the initial meeting in the mid-1940s, Committee B09 meets twice each year. Almost from its inception until 2017, B09 met independently in the Ft. Lauderdale, FL, area in the spring, as, initially, airfares were cheaper from the Northeast (where many of the members were from), off-season hotel rates were cheaper, and good golfing opportunities were available. In fact, in its earlier years, B09 often met on Sunday afternoons and evenings, with morning and evening meetings during the week, leaving the weekday afternoons free for golf – or beach activities for the non-golfers. The Rustic Inn Crab House in Ft. Lauderdale became a traditional dinner venue, and, indeed, the B09 Chairman’s gavel is a crab-smashing mallet from the Rustic Inn. More recently, Committee E29 on Powder and Spray Characterization has met with B09 because of the mutual interests of B09 and E29 members. Fall meeting locations of both B09 and E29 are usually in ASTM International’s October Committee Weeks, wherever they occur.

Initial Meeting Locations
Illinois
Chicago - 1946

New York
Buffalo - 1947
New York City - 1944, 1947

Pennsylvania
Pittsburgh - 1946

Meeting Locations Since 1981
Arizona
Phoenix - 1994

Florida
Fernandina Beach - 2018, 2019
Fort Lauderdale - 1982
Jacksonville - 2013
Orlando - 2000, 2016

Georgia
Atlanta - 2006, 2009, 2012

Kentucky
Louisville - 1986

Louisiana

Maryland
Baltimore - 1989

Michigan
Detroit - 1990

Missouri
St. Louis - 2008

Ohio
Cincinnati - 1987

Ontario
Toronto - 1988

Pennsylvania
Pittsburgh - 1992
West Conshohocken - 1997

Quebec
Montreal - 1991

Rhode Island
Providence - 1982

Tennessee
Nashville - 1983, 1985

Texas
Dallas - 1993, 2001, 2005

Virginia
Washington, D.C. - 2004, 2018