

International Journal of Powder Metallurgy

Instructions for Authors

The *Journal* reports on scientific and technological developments worldwide in the powder metallurgy and particulate materials industries. Articles cover both the scientific/theoretical and practical aspects of the technology. Subjects addressed include: powder production and characterization; compaction; sintering; consolidation to full density; powder injection molding; and hybrid particulate processes such as spray forming and thermal spraying. The *Journal* also embraces review articles, PM industry news, company profiles, a consultants' corner, newsmakers, conference reports, and book reviews.

The *Journal's* audience includes: powder metallurgists, engineers, researchers, educators, students, technical managers, and users of powders, PM parts and particulate materials.

Manuscript Requirements

1. The primary author should be a member of APMI International.
2. a. All manuscripts must be typewritten, double spaced and on one side of the paper only. Authors should limit manuscripts to 10 printed pages in the *Journal*. For guidance, this is roughly 30 double-spaced pages—including text, references, figures and tables.
 - b. Authors must submit their manuscript on CD, in Microsoft Word, and include **three printed** copies of the manuscript. All images should be digital, in jpg or tif format, and **at least** 300 dpi at 4x6 inches. Please include digital images in separate files, as well as included in the text of the manuscript.
 - c. Micrographs must include a magnification marker in the lower right-hand corner.
 - d. Tables and figures must include complete descriptive captions.
 - e. Equations, tables, references and figures should be numbered separately and consecutively throughout the text.
 - f. Papers must be in English, be original and not be published elsewhere. Translated papers published in other languages will be considered provided the author receives permission and submits a copyright release from the publication involved. Particular attention should be given to grammar/syntax; the *Journal* is not in a position to assist foreign authors in technical writing.
3. Authors and co-authors must provide **complete** names, mailing addresses, job titles and affiliations, as they wish them to appear in the *Journal*. A letter accompanying the manuscript should give the name, complete address, telephone number, fax number and e-mail address of the author to whom correspondence should be sent.
4. Each paper must include an abstract of approximately 100 words that summarizes concisely the paper's objectives, methods, results, observations, mode of analysis and conclusions.
5. Système International (SI) units are mandatory. If industrial practice dictates the use of other systems of units, such units must be included in parentheses. As a guide for authors, frequently used SI units and the corresponding conversion factors are provided overleaf.
6. Weight percent, atomic percent and volume percent should be given as w/o, a/o and v/o, respectively.
7. References must be numbered, placed at the end of the paper, and must adhere to the following format:

Journal

T. Le, R. Stefaniuk, H. Henein and J-Y. Huôt, "Measurement and Analysis of Melt Flowrate in Gas Atomization", *Int. J. Powder Metall.*, 1999, vol. 35, no. 1, pp. 51–60.

Book

R.M. German, *Powder Metallurgy Science*, Second Edition, 1994, Metal Powder Industries Federation, Princeton, NJ.

Article in Book/Conference Proceedings

S.H. Luk, F.Y. Chau and V. Kuzmicz, "Higher Green Strength and Improved Density by Conventional Compaction", *Advances in Powder Metallurgy & Particulate Materials*, compiled by J.J. Oakes and J.H. Reinshagen, Metal Powder Industries Federation, Princeton, NJ, 1998, vol. 3, part 11, pp. 81–99.

Patent

I.L. Kamel, A. Lawley and M-H. Kim, "Method of Molding Metal Particles", U.S. Patent No. 5,328,657, July 12, 1994.

Thesis

D.J. Schaeffler, "High-Strength Low-Carbon Powder Metallurgy Steels: Alloy Development with Transition Metal Additions", 1991, Ph.D. Thesis, Drexel University, Philadelphia, PA.

Technical Report

T.M. Cimino, A.H. Graham and T.F. Murphy, "The Effect of Microstructure and Pore Morphology on Mechanical and Dynamic Properties of Ferrous P/M Materials", 1998, Hoeganaes Technical Data, Hoeganaes Corporation, Cinnaminson, NJ.

Web Site Content

J.R. Dale, "Connecting Rod Evaluation", Metal Powder Industries Federation, <http://www.mpif.org/design/conrod.pdf>

Private Communication P.W. Taubenblat, 1999, Promet Associates, Highland Park, NJ, private communication.

The author(s) will be sent a copyright form, which must be returned before the paper can be published. A reprint order form will also be sent to the author(s). All manuscripts submitted to the *Journal* should be sent to the Editor-in-Chief, who will make an initial decision on the paper's suitability for external review. Papers are then subject to review by two members of the Editorial Review Committee. Papers are accepted with the understanding that they may be returned to the author(s) for revision, based on the reviewer's recommendations. They may also be edited by the *Journal's* staff for clarity and conciseness.

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SYSTÈME INTERNATIONAL UNITS (SI) AND CONVERSION FACTORS

Adapted from: R.M. German, *Powder Metallurgy Science, Second Edition*,
Metal Powder Industries Federation, Princeton, NJ 1994

Length Conversions:

1 m = 39.4 in. (inch)
1 m = 3.28 ft. (foot)
1 m = 1.09 yd. (yard)
1 cm = 0.394 in. (inch)
1 mm = 0.0394 in. (inch)
1 μ m = 39.4 μ in (microinch)
1 nm = 10 Å (angstrom)

Area and Volume Conversions:

1 cm² = 0.155 in.² (square inch)
1 m² = 1,550 in.² (square inch)
1 cm³ = 0.061 in.³ (cubic inch)
1 m³ = 35 ft.³ (cubic foot)
1 L = 1,000 cm³ (cubic centimeter)
1 L = 0.264 gal. (gallons)
1 L = 1.06 qt. (quart)

Amount of Substance Conversion:

1 mol = 6.022·10²³ molecules

Density Conversions:

1 Mg/m³ = 1 g/cm³
1 g/cm³ = 0.0361 lb./in.³ (pound per cubic inch)
1 kg/m³ = 10⁻³ g/cm³

Temperature Conversion:

to convert K to °F (fahrenheit), multiply by 1.8, then subtract
459.4°F
to convert °C to °F (fahrenheit), multiply by 1.8, then add 32°F

Heating and Cooling Rate Conversions:

1 K/s = 1°C/s = 1.8°F/s
1 K/min = 1.8°F/min

Mass Conversions:

1 g = 0.035 oz. (ounce)
1 kg = 2.2 lb. (pound)
1 Mg = 1.1 ton (ton = 2,000 pounds)

Force Conversions:

1 N = 10⁵ dyne
1 N = 0.225 lbf (pound force)

Pressure, Stress and Strength Conversions:

1 Pa = 0.0075 torr (millimeter of mercury)
1 Pa = 10 dyne/cm² (dyne per centimeter square)
1 kPa = 0.145 psi (pounds per square inch)
1 MPa = 9.87 bar (atmosphere)
1 MPa = 145 psi (pounds per square inch)
1 MPa = 0.145 kpsi (thousand pounds per square inch)
1 Gpa = 145 kpsi (thousand pounds per square inch)

Energy Conversions:

1 J = 9.48·10⁻⁴ btu (British thermal unit)
1 J = 0.737 ft.-lbf (foot pound force)
1 J = 0.239 cal (calorie)
1 J = 10⁷ erg
1 J = 2.8·10⁻⁷ kw-h (kilowatt hour)
1 J = 6.24·10¹⁸ eV (electron volt)
1 J = 4.83 hp-h (horsepower-hour)
1 J = 1 W·s (watt second)
1 J = 1 V·C (volt coulomb)
1 kJ = 0.239 kcal (kilocalorie)

Power Conversions:

1 W = 0.737 ft.-lb./s (foot pound per second)
1 W = 1.34·10⁻³ hp (horsepower)

Thermal Conversions:

1 J/(kg·K) = 2.39·10⁻⁴ btu/(lb.·°F) (British thermal unit per pound per degree fahrenheit)
1 J/(kg·K) = 2.39·10⁻⁴ cal/(g·°C) (calorie per gram per degree celsius)
1 W/(m·K) = 0.578 btu/(ft.-h·°F) (British thermal unit per foot per hour per degree fahrenheit)
1 W/(m·K) = 2.39·10⁻³ cal/(cm·s·°C) (calorie per centimeter per second per degree celsius)

Viscosity Conversions:

1 Pa·s = 1 kg/(m·s)
1 Pa·s = 10 P (poise)
1 Pa·s = 10³ cP (centipoise)

Stress Intensity Conversion:

1 MPa·m^{1/2} = 0.91 kpsi·in.^{1/2} (kilopounds per square inch times square root inch)

Magnetic Conversions:

1 T = 10⁴ G (gauss)
1 A/m = 1.257·10⁻² Oe (oersted)
1 Wb = 10⁸ Maxwell