

Instructions for Authors

The Journal of Thermal Spray Technology publishes contributions of news, technical notes, and archival peer-reviewed papers, including processes, feedstock manufacture, testing and characterization, and engineering applications. The scope of JTST encompasses both fundamental and practical aspects of thermal spray and related coating technologies.

A manuscript will be published according to subject matter as either a "peer-reviewed paper" or a "technical note." Assignment will be made by the Editorial Office, but author guidance is appreciated.

All manuscripts, including symposia, will be judged by at least two qualified reviewers, assigned by the Editor or an Associate Editor. The review will be conducted against established criteria to determine technical quality. The reviewers each submit a recommendation to the editorial office regarding the merit of the manuscript, but the Editor or Associate Editor provides a final decision on acceptance of the paper for publication. The journal reserves the right to reject papers, which, in the opinion of the editor, do not meet its editorial standards, without further review.

Submission for publication is representation that neither the manuscript nor the basic information in the manuscript has been copyrighted, published, or submitted for publication elsewhere and that its publication has been approved by any and all co-authors, as well as by the responsible parties – tacitly or explicitly – at the institute where the work has been carried out. The publisher and journal owner will not be held legally responsible should there be any claims for compensation. Prior publication is a basis for rejection except under special circumstances such as appearance as an internal organizational report or expanded versions of a conference or symposium proceedings with limited circulation. The prior publication history should be clearly noted on the manuscript. If the manuscript is under a prior copyright but still appropriate for publication in JTST, the author must have permission of the prior copyright holder for JTST to publish the manuscript.

Prior to submitting a manuscript, authors are strongly encouraged to read the JTST Plagiarism Policy. The policy may be accessed on the JTST ScholarOne Manuscripts site, <http://mc.manuscriptcentral.com/jtst>, as well as on the JTST homepage, <http://www.springer.com/materials/surfaces+interfaces/journal/11666>.

JTST utilizes iThenticate Plagiarism Detection Software. All manuscripts submitted to JTST are automatically upon submission submitted to the CrossCheck Database to check for potential plagiarism.

The Journal of Thermal Spray Technology publishes three classes of papers:

Reviews: Authors who intend to write extensive reviews are invited to submit an extended abstract (400-500 words) and a listing of section headings to the Editor prior to submission of the complete manuscript. It is expected that this prior discussion and planning of the paper will facilitate rapid publication.

Peer-Reviewed Papers: Manuscripts should represent completed original work embodying the results of extensive field, plant, laboratory, or theoretical investigation, or new interpretations of existing problems. Material must be considered to have significant permanent value. In addition to technical acceptability, material should be presented clearly and concisely in English. These articles will be identified by a "JTST Peer Reviewed" logo within JTST.

Technical Notes: This classification provides more rapid publication of short items. Abstracts and divisional headings are not mandatory. The length for a Technical Note should be about 1,000 words of text, accompanied by whatever figures and tables may be required to support the text. Technical notes may be of the following categories:

- Communications that detail case histories of practical importance concerning the demonstration and use of thermal spray coatings and associated technology.
- Discussion of reviews, peer-reviewed papers or technical notes, which makes a contribution to a previously published article by providing confirmation or additional interpretation; it will be referred to all original authors for a reply, which will be published concurrently.
- Announcements and summaries of computations and computer programs or other compilations that are available on request from the author or a specified agency.

MANUSCRIPT SUBMISSION AND PREPARATION

Online Submission System

Go to <http://mc.manuscriptcentral.com/jtst>. Log in to ScholarOne Manuscripts or click the "Create Account" option if you are a first time user.

IMPORTANT: Read all author instructions on how to prepare your manuscript and figures before you submit. Author instructions are found through the "Instructions & Forms" link in the upper right corner of all pages. Click the "Submit a Manuscript" link in the menu bar to begin. Enter data and answer questions about the manuscript as prompted. Click the "Next" button on each screen to save your work and advance to the next screen. You will be prompted to upload your files.

The following file formats are unsuitable for production and are excluded from submission:

- **ppt, .pdf, .exe, .zip, .com, and .vbs.**

Names and email addresses for all authors listed on the manuscript must be entered during the submission process. The authors and co-authors will receive an e-mail message confirming that the manuscript has been received by the journal. You may log in to ScholarOne Manuscripts and select the Author Center anytime from anywhere to check the status of your manuscript. You may stop a submission at any stage and complete it later. From the Author Center, click on "Unsubmitted Manuscripts" and then click on the "Continue Submission" link to resume the submission process. If you need assistance, click on the "**Get Help Now**" button found on every screen. You may also call 888-503-1050 or 434-964-4100 or email support@ScholarOne.com for assistance.

The online Copyright Transfer form must be completed before the manuscript can be published. Please use the copyright E-forms function within ScholarOne Manuscripts to submit the form online. It is preferable to complete the form online immediately following submission. If the article is not published in JTST, the copyright transfer will not take effect. See section entitled **COPYRIGHT POLICY** that follows.

The full contact address, telephone number, and email address of the corresponding author must be provided and will be included in the published JTST article. Include contact information for all coauthors. If there are no coauthors, please provide contact information for an assistant or coworker as a backup.

General Guidelines

Submissions for JTST should be submitted electronically through <http://mc.manuscriptcentral.com/jtst>. Submitted article content must be in final form and in English. Copy should be double spaced with at least 25mm margins. Articles should be based on Word files with only essential formatting included (Bold, Italic, etc.). Any extraneous formatting (double column text, embedded figures/tables, margin adjustments, etc.) should be removed. Manuscript text, references, figure captions, and tables should be included in one single document, in that order; art should be separate high resolution files. Manuscript review will occur online in a secure environment. Correspondence concerning the submission will be transmitted to the corresponding author via email.

1. The required Reference format is shown in the section entitled **STYLING OF REFERENCES**. Reference to unpublished work that is difficult to obtain (such as classified or secret works) should be kept to a minimum. Editor may ask for further clarification or substantiation of such references.
2. The title of the contribution should be succinct (no greater than 15 words) and clearly describe the focus of the work. **The abstract is the author's summary of a scientific paper and is included in the review procedure.** It should indicate newly observed facts, conclusions, and the essential parts of any new theory, treatment, apparatus, technique, etc. It should be concise and informative and only in exceptional cases exceed 200 words.
3. Include 4-7 keywords.
4. Avoid the use of trade names and proprietary information whenever possible. Such use can occasionally be justified if this is the best way to specify a particular material or process. Company name and location (city, state, and country) must accompany trade name use.
5. A series of papers dealing with the separate aspects of a subject should be cross-referenced. Divisions, such as Part I and Part II, are not recommended as they complicate the review procedure and abstract listings. If such divisions are considered essential, they should be justified by the author at the time of submission and are subject to approval in review.
6. A **Table of Symbols** and their corresponding dimensional units should be included when symbols are used extensively throughout a paper.

7. Extensive revision at the author's option of text or figures in proof is costly and will be charged to the author. Typographical errors may be corrected and references updated without charge.
8. There are no facilities for translating or making editorial revisions of contributions written in foreign language.
9. Authors who require assistance with English language editing to bring their manuscript to a level sufficient for peer review may consider the following services. These are offered as potential paths by which authors may improve the language quality of their manuscripts and a small sample of many such services available, but no guarantee is made regarding the services. Editing services must be arranged and paid for by the authors. Such editing may be required by the editors when they deem it necessary. Procurement of language editing by the authors does not guarantee acceptance of their manuscript.

Edanz (<http://www.edanzediting.com/springer>)
American Journal Experts (www.journalexerts.com)
SPi (www.prof-editing.com)

Also available is the Springer Author Academy, <http://www.springer.com/authors/author+academy>, which provides helpful information to new authors.

Manuscript Figures

Submit art as separate .tif, (preferred) .jpg, or .psd files at least three inches wide at 300 DPI resolution for photos and micrographs, 1200 DPI resolution for line drawings, graphs, and charts, and 600 DPI for combination grayscale/line drawings. Art embedded into a Word document defaults to 72 DPI, resulting in low resolution not suitable for print production. For review purposes, however, figures may be embedded in a Word document in addition to submittal as separate files. All micrographs should have micron bars clearly displayed. In order to ensure readability, figures and art work should be submitted in a form suitable for publication in black and white, unless the author plans to pay for color in the print version.

For more specific guidelines, authors may refer to the Springer guidelines for artwork at <http://www.springer.com/authors/manuscript+guidelines?SGWID=0-40162-12-331200-0>.

Art submitted in color will be produced in color in the online version of JTST at no charge. **Color printing** can be arranged, but will involve a cost billed to the author. Authors should contact Patty Conti, Journals Coordinator, jennifer.kelly@asminternational.org; phone 440/338-5151, ext. 5710 regarding these fees. The editor may select a figure for use as cover art from submissions to the journal.

For previously published figures and tables, written confirmation of permission to reprint should be included for each item along with the manuscript at submission.

Units

The policy of the *Journal of Thermal Spray Technology* is to use metric units based on the International System of Units (SI). For guidelines, access the [NIST site \(http://physics.nist.gov/cuu/Units/index.html\)](http://physics.nist.gov/cuu/Units/index.html) to obtain information on SI units. If a particular situation justifies the use of another system, conversion must be made to SI units in parentheses or in tabular form. For temperature, degrees C (Celsius or Centigrade) is allowed.

JTST Policy on Accuracy and Precision

The accuracy and precision of all work is extremely important and is considered necessary information for anyone reading a scientific or engineering publication. Therefore, JTST will not accept manuscripts that do not include a definitive statement of the accuracy and precision of reported experimental or computed results including the results of computer modeling. For example, all graphs or charts must have error bars for all data points with an explanation of how they were determined stated in the text. If the error bars compete with clarity of the graphs and if they do not differ significantly from point to point, it may be sufficient, at the discretion of the reviewers and editors, to state the uncertainty in the figure caption.

JTST Plagiarism Policy

Prior to submitting a manuscript, authors must read the JTST Plagiarism Policy. The policy may be accessed on the JTST ScholarOne Manuscripts site, <http://mc.manuscriptcentral.com/jtst>, as well as on the JTST homepage, <http://www.springer.com/materials/surfaces+interfaces/journal/11666>.

STYLING OF REFERENCES

1. If the work being cited is an article in a book or journal, the article title must be included.

2. All authors' names must be listed.
3. Use journal abbreviations as given in the current listing of Chemical Abstracts Service Source Index.

Example: Authors, Article Title, *Journal*, year, **volume**(issue number), pages, language

R.A. Miller, P. Agarwal, and E.C. Duderstadt, Life Modeling of Atmospheric and Low Pressure Plasma Sprayed Thermal Barrier Coatings, *Ceram. Eng. Sci Proc.*, 1984, **5**(78), p 470–478, in German

4. If an article is written in a language other than English, list the title in the original language, followed by the English translation (if available) in parentheses. State the language of the paper in parenthesis at the end of the citation.

Example:

H. Grein, De la cavitation: une vue d'ensemble (Cavitation: An Overview), *Rev. Tech. Sulzer*, 1974, p 87–112 (in French)

5. References to articles in books, including published conference proceedings, should include the title and the pages within the book. Chapter numbers may be given in place of chapter titles or page ranges. Roman numerals are acceptable. The abbreviation Chap. is used with the number. If an article is published on a CD-ROM or online and has no page numbers, the article title will be sufficient.

Example: Authors, Article Title, *Book Title*, edition, Editor(s), Date of conference (Location of Conference), Conference Sponsor, Publisher, year, pages

J. Sickfield, Pull-off Test, *Adhesion Aspects of Polymeric Coatings*, 2nd ed., K.L. Mittal, Ed., Sept 15–18, 1980 (Paris), Plenum Press, 1983, p 543–567

J. Wilden, S. Jahn, S. Reich, G. Fischer, and V.E. Drescher, FeNiW-Coatings for Casting Molds in the Aluminium Industry, *Thermal Spray 2008: Thermal Spray Crossing the Borders*, on CD-ROM, E. Lugscheider, Ed., June 2-4, 2008 (Maastricht, The Netherlands), DVS-German Welding Society, 2008

6. References to online documents should be referenced either by the DOI or should include the full web address and date of access.

M.K. Slifka and J.L. Whitton, Clinical implications of dysregulated cytokine production. *J Mol Med.*, 2000, doi:10.1007/s001090000086

J. Cartwright, Big stars have weather too. IOP Publishing Physics Web, <http://physicsweb.org/articles/news/11/6/16/1>, 2007. Accessed 26 June 2007

7. When citing specifications and standards, the critical elements are the standard number and the name of the standards organization.

Example: Author (if available), "Standard Title," Standard Number, Name of Standards Organization, year, page numbers

"Test Method for Acid and Base Number by Color Indicator Titration," C 633, *Annual Book of ASTM Standards*, Part 17, ASTM, 1986, p 636–642

P.H. Hutton, "An Acoustic Emission Zone Monitor and Recorder for BWR Pipe-Cracking Detection," EPRI NP-1408, Electric Power Research Institute, June 1980

8. Private communications, unpublished research, and company and agency reports may be cited when required. The citation must include the affiliation and, where necessary, the address of the person involved as well as the year. Papers presented at meetings, but not published, are in this category. When citing theses and dissertations, the critical elements are the author's name, the school's name, and the year.

Examples:

J. Smith, "ABC Coatings—A New Technology," AAA Company, New York, NY, promotional literature, undated

P.A. Siemers and W.B. Hillig, "Thermal Barrier Coated Turbine Blade Study," NASA Cr-165351, NASA-LeRC, Cleveland, OH, Aug 1981

P. Ostojoc, "The Adhesion of Thermally Sprayed Coatings," Ph.D. Thesis, Monash University, 1986

9. In press references must include the journal name and as many details as are available at that time, and be denoted by in press, submitted for publication, or to be published.

10. The **most common error** in referencing concerns the format for the NTSC, ITSC, and UTSC conference proceedings. These proceedings are treated as books and the following example indicates the style.

M.T. Blatchford, A.J. Horlock, D.G. McCartney, P.H. Shipway, and J.V. Wood, Production and Characterization of HVOF Sprayed NiCr-TiC Coatings Using SHS Powder Feedstock, *Thermal Spray: Surface Engineering via Applied Research*, C.C. Berndt, Ed., May 8-11, 2000 (Montréal, Québec, Canada), ASM International, 2000, p 515-522

Notes:

- Please follow the punctuation exactly.
- All authors are included with their corresponding first name(s) initials.
- The article title is in "Title Case" and is NOT italicized.
- All the page numbers of the article are given.
- The name of the book is in Title Case and italics.
- The Editor(s) name is listed.
- The publisher, location details, and year of publication are included.

Some convenient short hand notation:

op. cit. (Latin for *opere citato*) means "in the work cited" and can be used if the same book (or journal or other source) is referenced within the manuscript. Thus, for example, if reference 10 also comes from "Thermal Spray: Practical Solutions for Engineering Problems" as cited in the example above, there is no need to repeat the book title, etc. The form of such a reference would be:

10. S. Ono, K. Nakahira, S. Tsujioka and K. Inoue, Energy Absorption Capacity of Thermally Sprayed Aluminium Friction Damper, *op. cit.* ref. 6, p 55-60

ib. or *ibid.* (Latin for *ibidem*) means "in the same place" and is used when the next reference comes from the same book or journal. Thus, for example,

7. Y. Bao and D.T. Gawne, Effect of Processing Parameters on the Wear Resistance of Thermally Sprayed Epoxy Coatings, *ibid.*, p 227-230.

Please use the list below to **ensure that your referencing of the UTSCs, ITSCs, and NTSCs is correct**. This is very important and will allow the processing of your manuscript to be expedited. Your manuscript will be returned to you for adjustments if the referencing does not follow the style of JTST.

1st NTSC (1987)

Thermal Spray: Advances in Coatings Technology, D.L. Houck, Ed., Sept 14-17, 1987 (Orlando, FL), ASM International, 1988, 426 p

2nd NTSC (1988)

Thermal Spray Technology: New Ideas and Processes, D.L. Houck, Ed., Oct 24-27, 1988 (Cincinnati, OH), ASM International, 1989, 469 p

3rd NTSC (1990)

Thermal Spray Research and Applications, T.F. Bernecki, Ed., May 20-25, 1990 (Long Beach, CA), ASM International, 1991, 792 p

4th NTSC (1991)

Thermal Spray Coatings: Properties, Processes and Applications, T.F. Bernecki, Ed., May 4-10, 1991 (Pittsburgh, PA), ASM International, 1992, 556 p

13th ITSC (1992)

Thermal Spray: International Advances in Coatings Technology, C.C. Berndt, Ed., May 25 – June 5, 1992 (Orlando, FL), ASM International, 1992, 1044 p

6th NTSC (1993)

Thermal Spray Coatings: Research, Design and Applications, C.C. Berndt and T.F. Bernecki, Ed., June 7-11, 1993 (Anaheim, CA), ASM International, 1993, 691 p

7th NTSC (1994)

Thermal Spray Industrial Applications, C.C. Berndt and S. Sampath, Ed., June 20-24, 1994 (Boston, MA), ASM International, 1994, 800 p

8th NTSC (1995)

Advances in Thermal Spray Science & Technology, C.C. Berndt and S. Sampath, Ed., Sept 11-15, 1995 (Houston, TX), ASM International, 1995, 774 p

14th ITSC (1995)

Thermal Spraying: Current Status and Future Trends, Akira Ohmori, Ed., May 22-26, 1995 (Kobe, Japan), High Temperature Society of Japan, 1995, 1226 p

9th NTSC (1996)

Thermal Spray: Practical Solutions for Engineering Problems, C.C. Berndt, Ed., Oct 7-11, 1996 (Cincinnati, OH), ASM International, 1996, 992 p

1st UTSC (1997)

Thermal Spray: A United Forum for Scientific and Technological Advances, C.C. Berndt, Ed., Sept 15-18, 1997 (Indianapolis, IN), ASM International, 1998, 1020 p

15th ITSC (1998)

Thermal Spray: Meeting the Challenges of the 21st Century, C. Coddet, Ed., May 25-29, 1998 (Nice, France), ASM International, 1998, 1693 p

2nd UTSC (1999)

Tagungsband Conference Proceedings, E. Lugscheider and R A. Kammer, Ed., March 17-19, 1999 (Düsseldorf, Germany), DVS Deutscher Verband für Schweißen, 1999, 879 p

1st ITSC (2000)

Thermal Spray: Surface Engineering via Applied Research, C.C. Berndt, Ed., May 8-11, 2000 (Montréal, Québec, Canada), ASM International, 2000, 1383 p

ITSC 2001

Thermal Spray 2001: New Surfaces for a New Millennium, C.C. Berndt, K.A. Khor, and E.F. Lugscheider, Ed., May 28-30, 2001 (Singapore), ASM International, 2001, 1381 p

ITSC 2002

International Thermal Spray Conference, E. Lugscheider and C.C. Berndt, Ed., March 4-6, 2002 (Essen, Germany), DVS Deutscher Verband für Schweißen, 2002, 1061 p

ITSC 2003

Thermal Spray 2003: Advancing the Science and Applying the Technology, B.R. Marple and C. Moreau, Ed., May 5-8, 2003 (Orlando, FL), ASM International, 2003, Vol. 1: 845 pp; Vol. 2, 864 p

ITSC 2004

Thermal Spray 2004: Advances in Technology and Application, ASM International, May 10-12, 2004 (Osaka, Japan), ASM International, 2004, 1129 p

ITSC 2005

Thermal Spray 2005: Thermal Spray Connects: Explore Its Surfacing Potential!, E. Lugscheider, Ed., May 2-4, 2005 (Basel, Switzerland), DVS-German Welding Society, 2005

ITSC 2006 CD

Thermal Spray 2006: Science, Innovation and Application, on CD-ROM, B. Marple, M. Hyland, Y.-C. Lau, R. Lima, and J. Voyer, Ed., May 15-18, 2006 (Seattle, WA), ASM International, 2006, 1480 p

ITSC 2006 Book

Thermal Spray 2006: Building on 100 Years of Success, B.R. Marple, M.M. Hyland, Y.-C. Lau, R.S. Lima, and J. Voyer, Ed., May 15-18, 2006 (Seattle, WA), ASM International, 2006, 396 p

ITSC 2007 CD

Thermal Spray 2007: Global Coating Solutions, on CD-ROM, B.R. Marple, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, and G. Montavon, Ed., May 14-16, 2007 (Beijing, China), ASM International, 2007, 1212 p

ITSC 2007 Book

Thermal Spray 2007: Global Coating Solutions, B.R. Marple, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, and G. Montavon, Ed., May 14-16, 2007 (Beijing, China), Springer, 2007, 436 p

ITSC 2008 CD

Thermal Spray 2008: Crossing Borders, on CD-ROM, E Lugscheider, Ed., June 2-4, 2008 (Maastricht, The Netherlands), DVS-German Welding Society, 2008

ITSC 2008 Book

Thermal Spray 2008: Crossing Borders, B.R. Marple, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, and G. Montavon, Ed., June 2-4, 2008 (Maastricht, The Netherlands), Springer, 2008, 392 p

ITSC 2009 CD

Thermal Spray 2009: Expanding Thermal Spray Performance to New Markets and Applications, on CD-ROM, B.R. Marple, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, G. Montavon, Ed., May 4-7, 2009 (Las Vegas, Nevada), DVS-German Welding Society – ASM International, 2009

ITSC 2009 Book

Thermal Spray 2009: Expanding Thermal Spray Performance to New Markets and Applications, B.R. Marple, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, G. Montavon, Ed., May 4-7, 2009 (Las Vegas, Nevada), Springer, 2010, 516 p

ITSC 2010 Book

Thermal Spray 2010: Global Solutions for Future Applications, B.R. Marple, A. Agarwal, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, G. Montavon, Ed., May 3-5, 2010 (Singapore), Springer, 2011, 378 p

ITSC 2011 Book

Thermal Spray 2011: Proceedings of the International Thermal Spray Conference, B.R. Marple, A. Agarwal, M.M. Hyland, Y.-C. Lau, C.-J. Li, R.S. Lima, and A. McDonald, Ed., September 27-29, 2011 (Hamburg, Germany), Springer, 2012, 372 p

ISTC 2012 Book

Thermal Spray 2012: Proceedings of the International Thermal Spray Conference, Air, Land, Water, and the Human Body: Thermal Spray Science and Applications, Basil R. Marple, Arvind Agarwal, Laura Filofteia-Toma, Margaret M. Hyland, Yuk-Chiu Lau, Chang-Jiu Li, Rogerio S. Lima, and André McDonald, Ed., May 21-24, 2012 (Houston, Texas), Springer 2013 (in press)

PUBLICATION OF SYMPOSIUM PAPERS

There are special situations when it is desirable to publish a group of papers concurrently in JTST. Typically, these arise when a technical committee has organized a limited meeting program of two or three half-day sessions on a particular theme. The material must be original, of high quality, and closely correlated but not sufficient in volume to justify a monograph or proceedings-type publication.

To obtain approval, the chairman of the symposium program should write to the Editor outlining the symposium scope and the papers to be considered, and abstracts if available. On receipt of this information, the Editor will determine suitability of the material for a focused issue. All manuscripts in the symposium will

be reviewed according to JTST standard review procedure. Presentation at the symposium is no guarantee that the editor will accept the paper for publication in JTST.

COPYRIGHT POLICY

JTST is subject to the U.S. Copyright Law, which became effective on January 1, 1978. Accordingly, the completed copyright transfer form must be received in the Editorial Office before an article can be processed for publication. This form, as accessed through the JMEP ScholarOne Manuscripts site, must be electronically signed by each author and coauthor unless excepted as noted as "work made for hire" or U.S. Government employees. Other copyright transfer forms may not be substituted for this form.

The copyright transfer becomes effective when the manuscript is accepted for publication. If the article is not published in JTST, the copyright transfer will not take effect. As the copyright owner for articles in JTST, ASM International will continue to promote the widest dissemination of the technical information printed in this journal.

OPEN ACCESS POLICY

Authors have the option to choose to make their articles Open Access. This option is offered to the contact authors of all manuscripts when the accepted manuscript enters the production phase. The author is offered the opportunity to make the article Open Access to all readers by paying a fee. This is optional and entirely the choice of the author whether he or she wishes to do so.



<http://www.springer.com/journal/11666>

Journal of Thermal Spray Technology

Editor-in-Chief: Vardelle, A.

ISSN: 1059-9630 (print version)

ISSN: 1544-1016 (electronic version)

Journal no. 11666