

2016 SPE® ACCE Author's Guide

16th Annual
SPE AUTOMOTIVE
COMPOSITES
CONFERENCE
& EXHIBITION
World's Leading Automotive Composites Forum
SOCIETY OF PLASTICS ENGINEERS
AUTOMOTIVE & COMPOSITES DIVISIONS

September 7-9, 2016

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ATTEND THE WORLD'S LEADING AUTOMOTIVE COMPOSITES FORUM

The Automotive and Composites Divisions of the Society of Plastics Engineers (SPE®) invite you to attend the 16th-annual SPE Automotive Composites Conference and Exhibition (ACCE), September 7-9, 2016 in the Detroit suburbs. The show – which has become *the world's leading automotive composites forum* – will feature technical paper sessions, panel discussions, keynote speakers, networking receptions, & exhibits highlighting advances in materials, processes, and applications technologies for both thermoset and thermoplastic composites in a wide variety of ground-transportation applications.

PRESENT BEFORE AN ENGAGED, GLOBAL AUDIENCE

The SPE ACCE draws over 900 attendees from 15 countries on 5 continents who are interested in learning about the latest composites technologies. Fully a third of attendees work for a transportation OEM, and roughly a fifth work for a tier integrator. Few conferences of any size offer such an engaged, global audience vitally interested in hearing the latest composites advances. Interested in presenting your latest research? Abstracts are due March 31, 2016 and Papers on May 31, 2016 to allow time for peer review. E-mail abstracts or papers to ACCEpapers@speautomotive.com. Approved papers will be accessible to attendees on a cloud-based server and later will be available to the general public.

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WRITE NOW...

We are pleased that you wish to prepare a paper for presentation at the **SPE[®] Automotive Composites Conference & Exhibition (ACCE)**, *the world's leading automotive composites forum*. We aspire to sponsor a high-quality conference and, as an active participant, we need your help.

To assist you in this endeavor, we have prepared this document (*adapted from SPE[®] ANTEC[®] guidelines*) that contains basic information on what we need from authors, plus some helpful information on preparing a manuscript and presentation.

How this Resource is Organized

This guide is organized into seven sections:

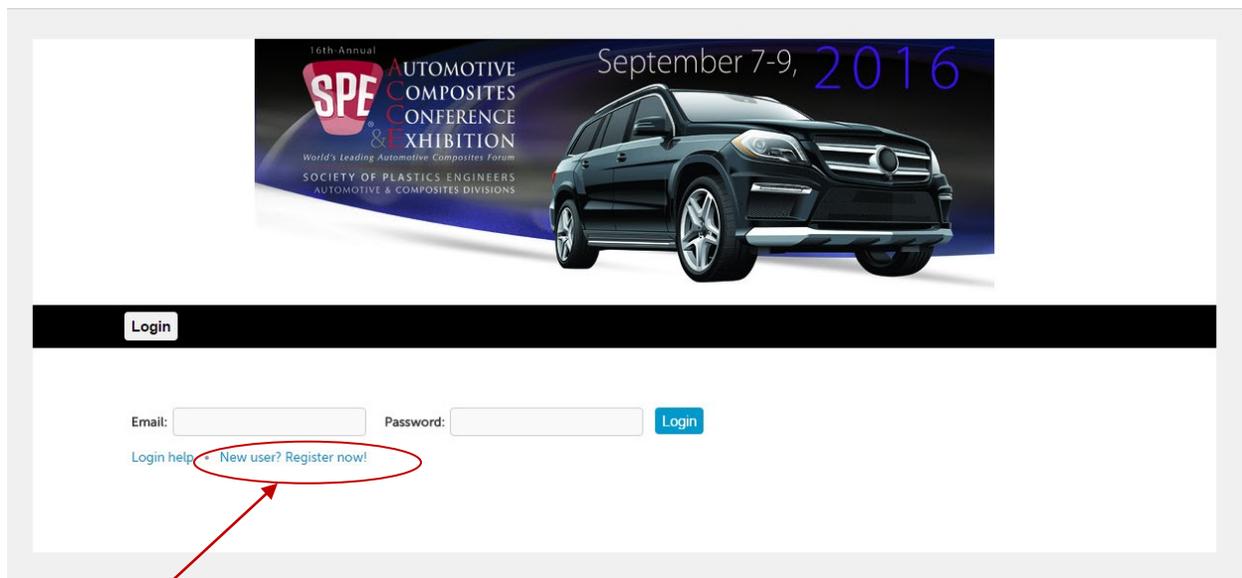
1. The New Paper Review Platform
2. The Process & Timing of Events
3. What is Required
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5. Now those Publication Details
6. Helpful Writing Hints
7. Problems with Submission of Full Papers
8. Author Release Form

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In 2016, we are using a new paper review platform. You may enter the system using this link: <http://SubmitACCEpapers.com>. We will step you through the basic process of setting up an account, filling out your profile, submitting an abstract, and then later submitting a paper. The new system should be faster and more efficient than the manual system we've used in the past. However, since this is a new system to us, if you have an issue, please just contact us at ACCEpapers@SPEAutomotive.com and let us know the problem. A great many issues can be resolved by simply using a browser other than Internet Explorer. When in doubt, switch browsers.

Here is the step-by-step process. When you first enter the website, please click on the link for New User? Register now!



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- Additive Manufacturing & 3D Printing**
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- Business Trends & Technology Solutions** ← industry trends/technology from other industries
- Enabling Technologies** ← machinery & process advances
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Please ignore the submission sub-group category; it's an option that's not available to ACCE authors (but a criterion we could not delete).

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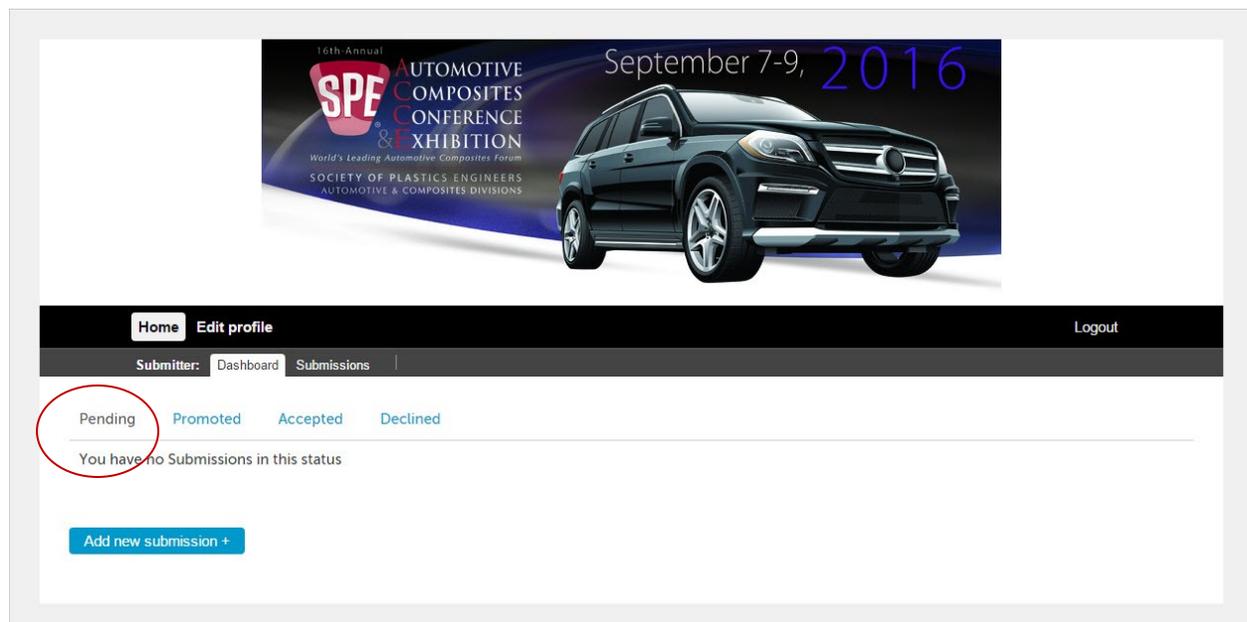
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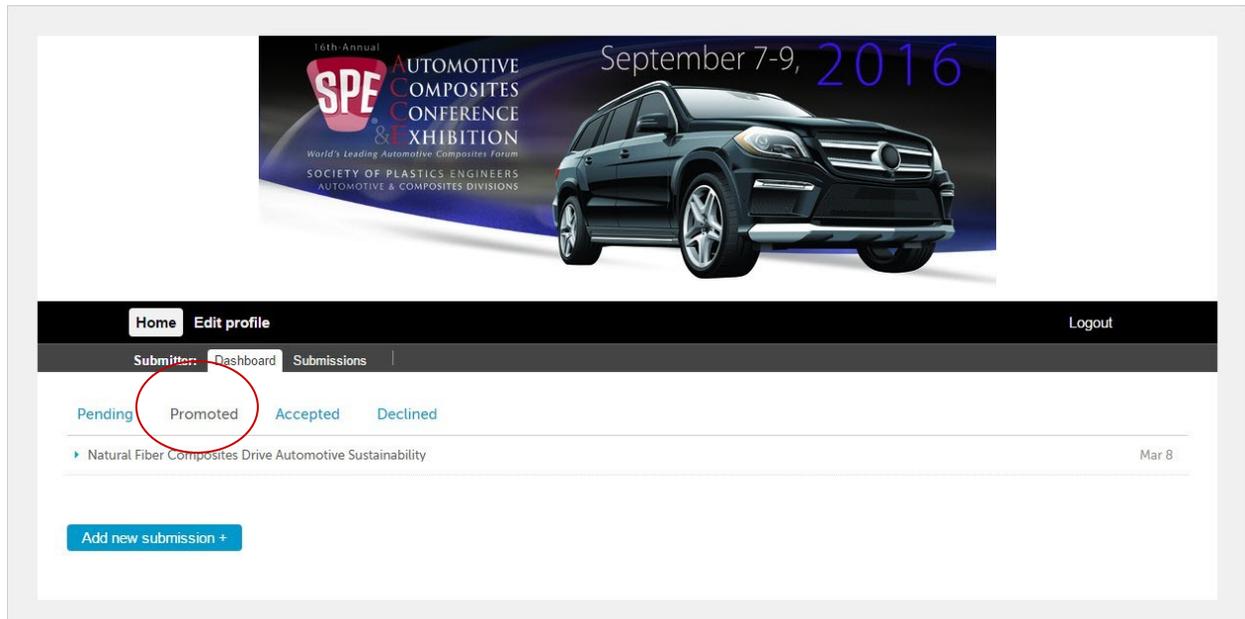
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Once your abstract is accepted / promoted, it's time to begin work on your non-commercial paper or presentation. You can submit one or the other (not both). The final manuscript should be technically substantive and not overly commercial or it will be rejected by reviewers and sent back for a rewrite. The rest of this document will explain how to write and format a good technical paper. For papers, you need to use our Word® template, which will be found under FORMS at <http://speautomotive.com/comp>. For presentations, you may use your own company PowerPoint® template, but again watch that it is not overly commercial or it will be more likely that reviewers will reject it and send it back for a rewrite.

When your paper / presentation is ready for peer review, please save it as a PDF file. Then log back into the system where you'll submit it in a manner similar to your abstract. From the home page, click on the Submissions tab, which will bring up a summary of your abstract to date.

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ABSTRACT SUBMISSION STAGE

Submission ID
008

Title of Paper
Natural Fiber Composites Drive Automotive Sustainability

Abstract
It's not often that a car, let alone a car part, gets credit for saving a village. But that could be the case with the trunk load floor in Ford Motor Co.'s (Dearborn, Mich.) 2012 model year (MY) Focus Electric, the automaker's first all-electric vehicle. This composite part is reinforced with coconut (coir) fiber, an agricultural waste product that otherwise has little value: It doesn't burn easily. It's unsuitable for livestock feed or bedding. And it's slow to biodegrade, so it isn't immediately useful as an agricultural soil amendment. But it is in plentiful supply. In villages from the Tropic of Cancer to the Tropic of Capricorn, it's piled near coconut-processing facilities because the locals don't have the resources necessary to rid themselves of husks and shells. That prompted College Station, Texas-based Essentium Materials LLC to find a way to capture this bio-waste, convert it into useful products and, thus, provide additional revenue for farmers in the developing world by offering manufacturers in the developed world sustainably sourced products whose prices are not tied to petroleum feedstocks or fluctuations in the futures markets.

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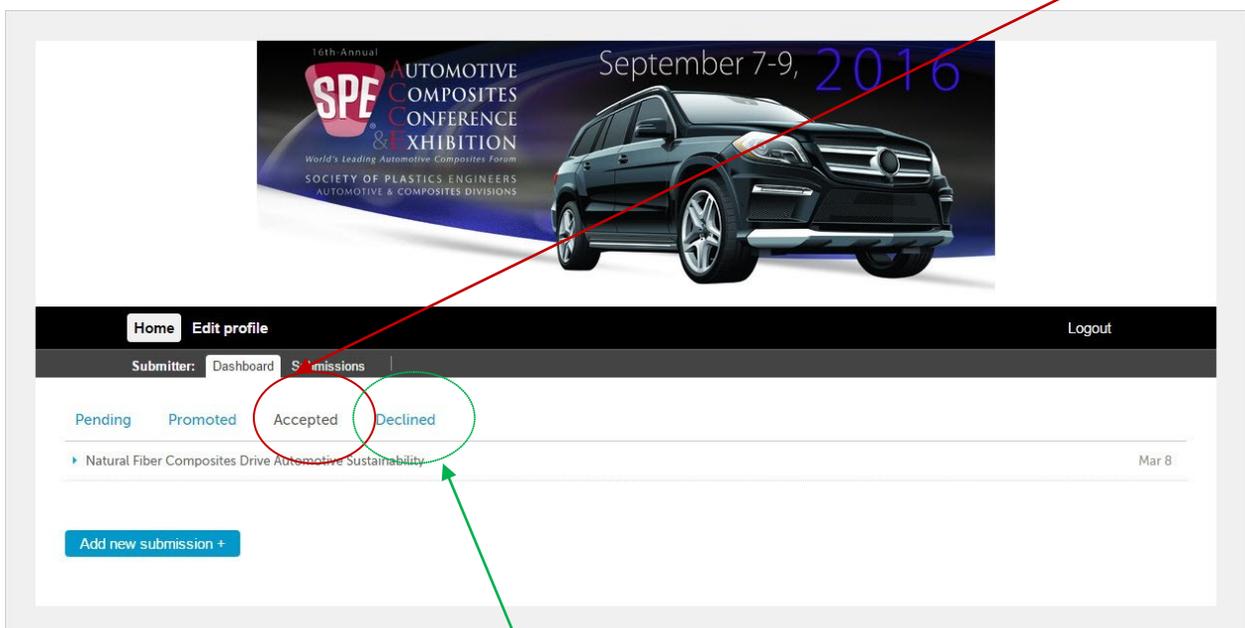
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Best Paper Awards

SPE will again bestow three ***Best Paper Awards*** at this year's conference for excellence in technical writing.

Only complete papers (not slide presentations) ***submitted for peer review in the proper format*** are eligible for an award.

The winners of the three highest-ranked papers will be notified prior to the event so they may be on hand during opening ceremonies to receive their award if possible. Winners will receive a plaque commemorating their achievement in a special ceremony held at the start of the ACCE show.

SPE will do pre-show publicity on the awards and may request a photo and author background information on each recipient. This information will be used to communicate with the media and also to introduce the winners as they are called up on stage to receive their awards.

If you have any questions about the awards, please contact your technical program chairs.

THE PROCESS & TIMING OF EVENTS...

Timing for Paper Submission

Following is the schedule for the **2016** conference:

- ✦ **Abstracts** are due by **March 31, 2016**.
- ✦ Assuming the abstract is accepted, the technical program co-chair or a session organizer will re-contact the author(s) within 3 weeks indicating the abstract has received conditional acceptance. At that point (if not sooner), authors should begin work on their manuscript.
- ✦ **Manuscripts** (complete papers or presentations) must be submitted for peer review by **May 31, 2016**. It does not have to be in SPE format at this point, but it does need to have completed all requisite company and military / government approvals.
- ✦ The manuscript will then be peer reviewed. If the manuscript has been received on time, a technical program co-chair will be back in touch with authors no later than **July 18, 2016** with the committee's disposition regarding the paper or presentation. The paper will be *accepted as is*, *accepted pending minor changes* (the requirements of which will be described), or *rejected pending a rewrite* (for reasons that will also be given). ***If you have not received an e-mail with comments on your paper by this date*** and do not see your offer in the status page when you log into <http://SubmitACCEpapers.com>, please contact us at once at ACCEpapers@SPEAutomotive.com. It may be that we have incorrect contact information for you.
- ✦ For papers requiring a rewrite, a second draft should be resubmitted to the committee as soon as possible. After a second round of review, the author will again be contacted with the committee's disposition.
- ✦ Assuming the manuscript is approved, the final electronic version of the completed, approved file – in Acrobat® PDF format – must be received in the system by **August 1, 2016**. If you have not agreed / accepted the terms of SPE's Author Release form and have not provided us with an alternative form of copyright transfer, then WE WILL NOT PUBLISH your paper or presentation (and you will not be allowed to present) until we have clear copyright to do so.

Your Presentation

Some helpful tips for making an effective presentation are included in this brochure. An LCD projector, laser pointer, and a computer will be provided in each presentation room. *(Please contact us ahead of time if you will need to play video on something other than the computer.)* Authors should bring their slide presentation (in PowerPoint® format) on a CD, DVD, or USB drive to the conference. *(For other storage formats, please contact us ahead of time to ensure they can be accommodated.)* The file will be loaded onto the computer in your presentation room by yourself or conference staff for fast and easy access when you come up to present.

A Speaker Ready area will be available for authors wishing to review their presentation before they speak. However, please note that the conference facility does not provide a laptop or LCD projector in the Speaker Ready Room on which to practice. If you need such equipment, please plan to supply your own.

Enjoy the conference! When it is time for your presentation, remember the most important fact: attendees are there because they really want to hear what you have to say and believe that listening to you is worth their time and money.

Please note: the person who actually presents the work may attend the whole conference without paying an attendance fee. However, co-authors not presenting must register for the conference and pay the full fee. SPE members save \$100 USD; non-SPE members automatically receive a year of membership in our society as part of their fees.

WHAT IS REQUIRED...

The SPE ACCE has certain quality requirements that it expects from its authors. These can be summarized as follows:

1. The paper – in its current form -- should not have been previously published to avoid copyright issues. If an exceptionally good paper with broad audience appeal has been previously presented, it can only be republished and represented at this conference with permission of organizers for this as well as the previous conference. Contact us for more details: media@speautomotive.com.
2. The paper must not be overly commercial in nature. Brand names and company logos must be avoided wherever possible. Authors are allowed **ONE** use of a commercial tradename per product or service per paper. After that, the product or service must be referred to in a generic fashion. ***Excessive commercialism will be grounds for rejection of a paper or presentation.*** The manuscript will only be accepted if the author removes excess commercialism.
3. The paper must adhere to format instructions, detailed in the next section. Visuals should be of good quality, but need not be high resolution since the document will not be printed. Please try to keep the size of graphic files embedded in the paper small (under 500 kilobytes each) to keep the ultimate file size to a manageable level. Very large files are slow to open and may crash older computers or those with limited memory.
4. There is an official SPE ACCE template for Word docs on our website, but no template for PowerPoint presentations. We suggest authors use a standard company template that is not overly commercial or create something new in PowerPoint for the event.
5. The final, peer-reviewed paper or slide presentation must be submitted via the online submission platform by **August 1, 2016**. The paper will be included on our cloud-based proceedings available just before the conference and will remain available long after the show is over on one of the most actively accessed locations on our website: the ACCE Archives.
6. **Each author** must agree to the **Author's Release Form** on the submission website or send an alternative form to us that we agree to accept ahead of time.

HOW THE PAPER SHOULD LOOK...

Your paper (or presentation) will be converted to a PDF file and placed in our electronic proceedings. To aid in preparing the manuscript, formatting requirements are outlined below.

For those familiar with working in templates, a template for the paper in Microsoft® Word® format is available for use on the SPE Automotive Division website at: <http://speautomotive.com/comp.htm>.

1. **ENGLISH** – All papers should to be written and presented in English.
2. **CORRECTIONS** – Authors should note that while we are willing to help with minor formatting issues, that we prefer not to have to make actual corrections in the main paper lest we make a mistake. We prefer that the original author make any corrections requested by reviewers.
3. **ABSTRACT** – An abstract must be included at the start of your paper. Feel free to modify the one you sent initially if the topic changes slightly. If the topic changes significantly, make sure you let us know so we can evaluate whether to move you to another session.
4. **MINI-ABSTRACT, SPEAKER BIO & PHOTO** – In addition, in a separate e-mail, *please include a 2-3-sentence mini-abstract summary of the content of your paper / presentation to be included in the conference program guide and event app as well as a short speaker biography and a photo (preferably jpg format, head/shoulders shot, in color) for use in our proceedings, program guide, and event app.* This information is important as attendees review our schedule and mini-abstracts to determine which presentation to attend in a given timeslot as we run concurrent sessions throughout the day. Please e-mail your mini-abstract, bio, and photo to ACCepapers@SPEAutomotive.com when you submit your draft paper or slide presentation.
5. **MANUSCRIPT REQUIREMENTS** – All text is to be contained within a **single-column**, A4 or US Letterhead with 2.5 cm/1 inch margins on all sides. Body text should be set in 11 pt Arial type as shown in the sample paper on Page 9 and in the Word® template provided.
6. **TITLE** – Title of the manuscript, names of authors, and company affiliations and addresses must be indicated on the first page of the manuscript. Titles should be in 14 pt bold Arial uppercase letters.
7. **Authors / Affiliations** – Names of authors should be in 13 pt Arial bold italic upper- and lowercase letters. The authors' affiliations should be written in 13 pt italic Arial Narrow in upper- and lowercase letters. Note the font change.
8. **HEADINGS** – Major headings are set as bold Arial 13 pt upper- and lowercase letters, centered on the page. Use double spacing between these headings and the text that follows (or use Head1 in the template).
9. **SUBHEADINGS** – Subheadings are flush left 12 pt Arial bold, in upper- and lowercase letters. Use Head2 in the template.
10. **SUB-SUBHEADINGS** – Sub-subheadings (or Head3 in the template) are flush left, 11 pt Arial italic in upper- and lowercase letters.
11. **SI UNITS** – Use of SI (International System) Units is mandatory. Values can be dual-dimensioned in Imperial (U.S.) units within parentheses to the right of the SI units if the author wishes. *Papers that contain values expressed solely in Imperial units will be returned for recalculation.*

12. **ACKNOWLEDGMENTS** – Acknowledgments may be made to individuals or institutions – not mentioned elsewhere in the paper – which have made important contributions to the work being presented. They should appear at the end of the text preceding the references.
13. **REFERENCES** – If there are five or fewer references, use footnotes. If more than five references are cited, use a list of references at the end of the paper. In this case, each reference should be numbered consecutively and reference to them should be placed next to the appropriate text and enclosed in brackets (e.g. [5]). In the template, use Numbered List to code.
14. **BIBLIOGRAPHY** – Quotations and references to other published material should be correlated in the text. To do this, use numbers in parentheses. Each reference should consist of the following: Author(s) last name, first and middle initials (reverse for subsequent co-authors of the same publication), *Publication Name*, volume: number, pages, (date). For example: **Smith, J.L. and B.M. Jones, *Advances in Formatting*, 14:3 23-26 (1999).**
15. **APPENDIX** – Other related but nonessential materials useful for background (such as description of an apparatus or test setup) may be included in the appendix.
16. **TABLES** – Where it makes sense, make tables the same width as the manuscript. All tables should be numbered consecutively in *Roman numerals* (e.g. I, II, III, IV, etc.) and have a caption consisting of the table number and a brief title placed *above* the table. The title also should appear *above* the table. Place tables near to the section of the text where they are referenced, not at the end of the paper to make it easier for those reading your paper online.
17. **ILLUSTRATIONS/FIGURES/PHOTOS** – Figures should be embedded in text boxes near where they are referenced in the text. They should be numbered sequentially in *Arabic numbers* (e.g. 1, 2, 3, 4, etc.) and have a caption consisting of the figure number and a brief description. The caption should appear *below* the figure.
18. **A NOTE ABOUT EQUATIONS** – Each equation is to be unique. Equations used should be numbered consecutively throughout the paper. Enclose the numbers in parentheses and place to the right of each equation. We have found problems when Equation Editor is used to create equations in papers fonts often do not convert correctly when changing from Word to Acrobat and between different versions of MS Office®. Therefore, for all but the simplest equations, we suggest that you create your equation in Equation Editor or another program, then do a screen capture and save the correct equation as a jpg or other graphics file, and then re-paste the equation back into your paper. That will ensure your equation displays correctly.

PAPER FORMATTING GUIDE

SINGLE COLUMN FORMAT

MARGINS-	left and right margins	1 in. / 2.5 cm	<i>See template and example on following page</i>
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	bottom margin	1 in. / 2.5 cm	

FONT & BODY

TEXT SIZE 11 pt Arial

TITLE **14 PT ARIAL / BOLD / ALL CAPS – MAXIMUM OF 3 LINES**

AUTHOR **13 pt Arial / Bold / Italic / Upper & lowercase**

COMPANY *13 pt Arial Narrow / Italic / Upper & lowercase (note font change)*

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SUBHEADS **Left-justified over column / 12 pt Arial / Bold / Upper & lower case**

SUB-SUBHEADS *Left-justified over column / 11 pt Arial / Italic / Upper & lower case*

PARAGRAPHS Single space / First line indented 0.25 in. / 0.63 cm / Use one-half line spacing between paragraphs. Try not to let lines break between paragraphs on succeeding pages (force a paragraph to the next page by hitting *Control-Enter* rather than break text between pages).

CAPTIONS *Titles (captions) for tables and graphs should use 11 pt Arial Narrow Italic. Captions are placed above table and use Roman numerals (e.g. Table V: Comparative Material Properties for 5 Composites). Figure captions are placed below graphs or photos and use Arabic numerals (e.g. Figure 5: Stiffness vs. Strength for Tensile Bar Specimens). Intersperse both figures and tables throughout the text, as near to the location where they are referenced in the paper as possible.*

FOOTNOTES Use numbers (e.g. 1,2,3, etc.) / 9 pt Arial Narrow italics at bottom of page or end of paper

REFERENCES 10 pt Arial / Number them beginning with 1

NEW 2-LAYER AUTOMOTIVE BODY-PANEL SYSTEM USING LIGHTWEIGHT THERMOPLASTIC COMPOSITE BACKSIDE & AESTHETIC SURFACES

*H. Dittmar, T. Hofmann, D. LoPresti, B. Vos, D Urban,
Quadrant Plastic Composites*

Abstract

The automotive industry has long sought new materials for exterior body panels. Metals are heavy, easily dented, many corrode, and all require complex tooling to meet today's styling requirements. Thermoplastics offer good impact strength, design freedom, Class-A finish, and cost effectiveness, but lack stiffness and strength for truly structural applications. Thermoset composites are lighter, stiffer, and have simpler tooling than metals or injection-molded thermoplastics, but require extensive secondary-finishing operations to achieve Class A. Thermoplastic composites offer significantly higher stiffness and strength than unreinforced thermoplastics, but cannot provide a glossy, Class-A surface, although they have long been used in applications where a grained first surface is acceptable.

This paper reviews innovative work on a 2-layer body-panel system incorporating a new, lighter weight, structural thermoplastic composite backside and an aesthetic surface layer – either precoated aluminum or inherently colored thermoplastic or paint films – to meet aesthetic requirements. Topics to be covered include materials, molding, and target applications.

The Ideal Body-Panel Material

The ideal material for use in an exterior automotive body panel would have a wish list of properties that included:

- Corrosion, chemical, and dent resistance,
- Light weight but with sufficient stiffness & strength,
- Class-A surface finish,
- Design freedom with capabilities for parts consolidation,
- Easy manufacturing and inexpensive tooling,
- Good repeatability and reproducibility (R&R),
- Readily available and with a long history of use,
- Inexpensive and reliable with good customer acceptance.

Unfortunately, no single material now in use meets all these criteria.

Classes of Candidate Materials

While long used in the industry, steel is relatively heavy, prone to denting and corrosion, and is more limited in terms of design flexibility and parts consolidation without costly tooling and secondary operations. Aluminum and more-exotic metals still suffer from denting, can be quite costly, and share many of steel's design challenges with high tooling costs.

YOUR FILE...

Your paper or presentation for the SPE ACCE must be submitted through the paper-review platform at <http://SubmitACCEpapers.com>. Please do not mail or eMail the paper or presentation to us directly. A conference program guide and a CD of all approved papers or presentations received by the deadline will be prepared for distribution to the meeting's attendees. Following is a list of specifications that we need your file to meet in order for SPE to display your work appropriately.

Formatting of Papers

File format – MS Word[®] or PowerPoint[®] (preferably for Office[®] 2003 or 2007, although earlier versions of the software will be accepted) or Adobe Acrobat[®] (created in a version no older than Acrobat 5.0) are the only approved programs for files. If you create your paper in another program, please convert it to one of the acceptable formats before submitting.

Place the paper in single-column format. To make this easier, we are also providing an MSWord[®] template that is already set up for your use. Ask your session organizer for a copy of this template by e-mail, or download it yourself from our website at <http://speautomotive.com/comp.htm>.

Since the papers will be published electronically, it is not necessary for authors in Europe or Asia to convert A4 documents to US letterhead format.

Graphics and images should be actual size or sized to fit on the page in portrait not landscape orientation. Please try to reduce the size of each embedded graphic to 500 kilobytes or smaller in order to keep the total file size at a manageable level. Very large electronic files are cumbersome to transmit over e-mail, are slow to open, and may crash older computer systems with limited memory. *Have pity on your reviewers and your conference attendees!*

NOW THOSE PUBLICATION DETAILS...

It is the author's responsibility to secure such approvals and clearances, including company, governmental, military, etc. as may be required. If this is a problem, please discuss it with the Technical Program Co-Chairs as soon as possible.

CONFERENCE PROGRAM GUIDE / CONFERENCE PROCEEDINGS - All accepted manuscripts that are received in time will be included on the Conference Proceedings, which is cloud-based and will be found in our ACCE Archives webpage. (A small amount of CDs will be available on a first-come/first-available basis at the front desk of the conference.)

Additionally, a short (2-3 sentence) mini-abstract (supplied by the author) will be listed in the Conference Program Guide as well as in our event app and on our website ahead of time. And a short author biography and photo will also be used in the proceedings, on the event app, and on the conference's main webpage.

Conference attendees will have access to all of these items as part of their registration packet. To assure publication, final papers / presentations must meet the deadlines outlined previously in this booklet.

Additionally, please be advised that only submissions of full papers in the proper conference format will be considered for one of the ***Best Paper Awards***, which SPE will bestow at this year's conference.

ALL AUTHORS MUST ALSO ACCEPT SPE'S AUTHOR RELEASE FORM ON THE SUBMISSION SITE OR PROVIDE AN ALTERNATIVE DOCUMENT THAT WE AGREE TO ACCEPT BEFORE THE MANUSCRIPT CAN BE ACCEPTED INTO THE CONFERENCE.

HELPFUL WRITING HINTS...

One paper, one basic idea. When complete it should be clear why you did this work, what you actually did, and what was learned. The case study method works well; state the problem, the steps taken to address the issue, the results of the effort and then finally end with the conclusions.

Vary the length of sentences and paragraphs to avoid monotony. If 40 words are required to express an idea clearly, use 40 words. If 10 words will do, try not to use more than are needed. A word of warning, though: if you need 40 words, then you probably did not express your idea clearly.

Give your manuscript to someone who is not involved with your project but who represents your intended audience. Ask your reader for specific suggestions on how to improve the readability and the presentation of the technical material.

Proper organization is the key to a readable technical paper. ACCE publications generally adhere to the following broad outlines:

- A. Title
- B. Author and company affiliations
- C. Abstract
- D. Text
 - I. Introduction
 - II. Statement of theory and definitions
 - III. Description of equipment and processes
 - IV. Application of equipment and processes
 - V. Presentation of data and results
 - VI. Interpretation of data
 - VII. Conclusions
- E. Nomenclature
- F. Acknowledgments
- G. References
- H. Bibliography
- I. Appendices (if needed)

The information contained in your paper must be original and new to the industry. Data published elsewhere is unacceptable unless used to draw conclusion or augment a point.

PROBLEMS WITH SUBMISSION OF COMPLETE PAPERS....

The ACCE Conference committee realizes that in some cases, a full paper cannot be submitted in time to meet the deadlines for completion of the proceedings. There may be some latitude in scheduling, so please inform us ASAP if this is the case.

Conference attendees have repeatedly indicated they prefer that the proceedings be complete with all papers or presentations given at the conference.

So...if a full paper is not possible, we will consider accepting the final version of your PowerPoint® presentation to include on the proceedings. However, it must still be reviewed and approved by our peer review committee and meet our peer review standards. In that case, please notify us at ACCEpapers@SPEAutomotive.com as soon as possible, then follow the instructions for a uploading a PDF of your presentation into the paper-review platform.

Please note that only full papers in the proper conference format can be considered for one of the three **Best Paper Awards** bestowed at this year's conference. Presentations will not be eligible for an award.



ONE FINAL CHECK...

1. Did you review this brochure thoroughly?
2. Did you accept the *Author's Release Form* on the submission site?
3. Have you obtained company approvals and OEM / government clearances as may be required?
4. Have you submitted your 2-3-sentence summary of your paper / presentation topic and short author biography for inclusion in the conference program guide and proceedings?