Automotive Plastics News Today, Tomorrow - Together

October 2006 Volume 36, Issue 1





Since 1970, the Automotive Division of the Society of Plastics Engineers (SPE®) International has been honoring the innovation that drives the auto industry. SPE's Automotive Innovation Awards Competition & Gala were designed to recognize successful and innovative plastics applications and the teams who developed them, as well as to communicate the benefits of polymeric materials to OEMs, the supply community, media, and the general public. In more recent decades, SPE has also recognized outstanding leadership among automotive and plastics industry executives who have helped advance the leading edge of automotive plastics innovation and directed creative and commercially successful ventures.

From its humble beginnings, the SPE Automotive Innovation Awards Competition has grown to be one of the most fiercely contested events in the plastics and automotive industries. Today, it is the largest competition of its kind in the world, and is the oldest and largest recognition event in the automotive and plastics industries.

This year's event is shaping up to be as robust and exciting as last year's highly successful 35th-anniversary campaign. "Over 800 people attended last year's event, which was an excellent turnout," said Brian Grosser, 2006 Innovation Awards Program

Chair. "We are continuing to build on our successful history and will add more features to this year's event to make it even better."

We will present three additional honors at this year's event to recognize leadership in automotive plastics:

Ms. Barbara Sanders from Delphi Corporation is receiving our Lifetime Achievement Award, Mr. Jim McCaslin from Harley-Davidson will receive our Executive Leadership Award, and Mr. Chris Theodore from ASC will receive the Global Executive Engineering Leadership Award. See pages 13, 14 and 15 for more information on these award winners.

Attend the 2006 Innovation Awards Program!

See Page 16 of this newsletter for Ticket Information.

This year's event is scheduled for Monday, November 13th. Doors will open at 4:30 p.m. to allow time to view displays of this year's nominated parts and accommodate out-of-town attendees. A VIP cocktail reception for sponsors will be held at 5:00 p.m. Dinner and the program will begin at 6:30 p.m. The program is scheduled to conclude by 9:00 p.m. We will also have an Afterglow event from 9 p.m. until 11 p.m. The event will once again be held at the Burton Manor Banquet and Conference Center in Livonia.

SPE's Innovation Awards Gala is the largest competition of its kind in the world. Dozens of teams

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Treasurer's Report

John Fialka

The SPE Automotive Division bank account balance is \$128K in checking and \$27K in savings. The Golf outing was a success financially netting \$2.4K. The Composites Conference had record attendance and sponsorship. The income reported to date for the ACCE is \$111K. Expenses recorded thus far are \$37K but the major expenses have not been posted to date. I will have a final update on the financial results for the conference in the next newsletter. Taxes are due 11/15/06. I am investigating a new service to handle credit card transactions more cost effectively.

Your company can help sponsor our newsletter!!!

Call Teri Chouinard for rates and information

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Automotive Division Meeting Schedule and Special-Events Calendar

Innovation Awards Program Burton Manor, Livonia, MI

November 13, 2006

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December 4, 2006

APC, Troy, MI

Division Board of Directors Meeting

Division Board of Directors Meeting

February 5, 2007

APC, Troy, MI

Division Board of Directors Meeting April 9, 2007

APC, Troy, MI

Auto EPCON April 24, 2007

Best Western Sterling Inn Sterling Heights, MI

ANTEC 2007 May 6-10, 2007

Duke Energy Center Cincinnati, Ohio

Automotive Division Board of Directors meetings are open to all SPE members. Call Mark Lapain at (248) 567.5455 for more information.



DRIVING INNOVATION

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Our Detroit Technical Center (DTC) serves as a development hub for our global customers. We've completed over 200 mold trials in the past 12 months. The DTC is also home to our dedicated automotive hot runner design team.

Whether it's QTI, Tandem, magnesium molding or in-line compounding, we're working with customers who view technology as a competitive advantage.

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Keeping our customers in the lead

Chairman's Message

Mark Lapain

The new year for the SPE Automotive Division is off to a fast start. The 6th-annual Automotive Composites Conference & Exposition (ACCE) was held on September 12-14 at the Michigan State University Management Education Center in Troy, MI. This event, which is co-sponsored by the SPE Automotive and Composites Divisions, was a clear success. The conference continued to expand this year, breaking previous records for attendance, number of presentations, sponsors, networking receptions and exhibition space.

Special thanks goes to the Conference Chair, Dale Brosius: Vice Chair, Dr. Frank Henning: Technical Program Co-Chairs: Brian Grosser and Jackie Rehkopf; Sponsorship Chair, Tim Simko; Sponsorship Vice-Chair. Teri Chouinard: Registration Chair, Patricia Levine: and Communications Chair, Peggy Malnati. collective leadership was critical to the success of the conference, which has evolved into a premier event within the composites community. I would also like to express gratitude to all of the moderators, presenters. session keynote speakers, panel participants and conference staff.

On September 18th, the Automotive Division Board of Directors had its first meeting of the new fiscal year at the APC in Troy, MI. The most significant action was the addition of two new directors: Peter Lipp of Kraus-Maffei and Ron Price of Global Polymer Solutions. Each of the new directors brings a strong background in plastics and will help strengthen our Board.

Next on the horizon is the Automotive Division's 36th-Annual Innovation Awards Competition & Gala. The competition is already well underway, and the gala event will be held at the Burton

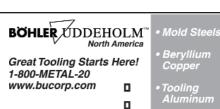
Manor in Livonia, MI on November 13th. Leading the charge is Program Chair, Brian Grosser. This year's program promises to maintain the high standards set by the previous Chair, Suzanne Cole. The Innovation Awards gives us a chance to honor the best in automotive plastics and salute this year's special Executive Award winners: Barbara Sanders of Delphi, Jim McCaslin of Harley-Davidson, and Chris Theodore of ASC.

The cumulative success of each of the Automotive Division's programs has enabled us to expand our educational outreach. We are increasing the number of scholarships that we give to qualified students and adding more schools for PlastiVan visits. I'd like to specifically note the efforts of Peggy Malnati, who is facilitating PlastiVan trips to some less frequented areas within our community. Peggy's positive influence and strong contributions to the Automotive Division are extremely appreciated.

To conclude, I'd like to again thank all the people who have helped the Automotive Division have a great start to the year and I look forward to seeing everyone at the Innovation Awards Competition & Gala.







Performance:



HPPC: Development of a Thermoplastic Solution for Automotive Horizontal Body Panels

Mario Cruz

GE Plastics Global Automotive Trends

The following paper was presented at the 6th Annual Automotive Composites Conference.

Today, there are three global trends that call for a thermoplastic solution for horizontal body panels (hoods, roofs and trunk lids):

- 1. Vehicle differentiation reducing the average annual production per name plate
- 2. Higher fuel cost demanding lightweight materials
- 3. Pedestrian safety regulations being enacted in Europe and Japan

Market competition, globalization, new entrants, and increasingly demanding consumers continue to drive automakers to differentiate and segment their portfolios. Over the last twenty years, there has been a consistent decrease on average annual production per "name plate". Parallel to that, the same market forces are also reducing the life of models.

The combination of smaller annual productions and shorter lifetimes has a significant influence on the exterior styling of today's cars. Horizontal body panels are the largest exterior parts with the most expensive tooling for steel stamping (the primary material used on them). When annual builds fall below 50,000 units, the cost for depreciating a multi-million dollar set of tools over a small number of parts becomes very high for a metal stamping solution. In this scenario, thermoplastic with a typical tooling cost that is a significantly lower than metal stamping can make a lot of economic sense, even though thermoplastic is a more expensive raw-material than steel.

With expected movements in oil prices, the importance of reducing vehicle weight has increased greatly compared with five or ten years ago. Also, the task of reducing the total weight of a vehicle has become more challenging when automakers add heavy hybrid drive-trains and more electronic components onto their vehicles to deliver the performance and features which consumers are demanding.

Thermoplastics has been, over the last decades, a very reliable and efficient way of weight reduction, delivering typical weight reductions between 30% to 50% compared with the same parts made using steel.

Finally, after decades of increasing the safety of vehicles occupants, regulators in Europe and Japan are now focusing in pedestrian safety. As pedestrian safety is not as an obvious benefit to the vehicle buyer as occupant safety

is, it is coming as legislation. The goal of this legislation is to reduce the severity of injuries suffered in collisions at speeds of up to 40 Km/hr, typical of shared- traffic areas. Pedestrian safety legislations are already having major impact on hood engineering (cost wise and design wise). This is another area that a thermoplastic can be part of the solution.

High Performance Thermoplastic Composite (HPPC)

Targeting these three trends, GE Plastics and Azdel Inc. (joint-venture between GE Plastics and PPG Industries) have been developing a thermoplastic glass fiber composite solution for horizontal body panels, called HPPC.

HPPC technology is based on different GE Plastics resins enabling painting using both online and offline processes, for applications currently made with sheet steel, aluminum and SMC. The target is lightweight but stiff designs utilizing the superior impact strength of these polymers for excellent energy management. With a coefficient of thermal expansion of <2 x 10-5 mm/mm/°C, they fit between aluminum and steel in terms of dimensional stability. The modulus of elasticity exceeds 15,000 MPa.

HPPC is a thermoplastic sandwich composite, combining a glass fiber composite core with a reinforced thermoplastic skin. The concept, see Figure 1, offers significant weight savings over steel, and in contrast to SMC, parts can be formed without post-shrinkage and without warpage at excellent surface quality, eliminating the need for post-treatment.

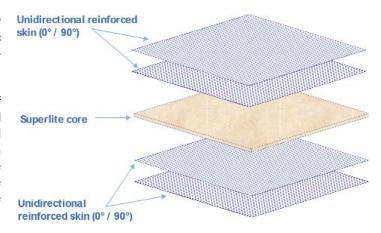


Figure 1: HPPC structure

The target value proposition for HPPC technology is the following:

- · Part stiffness similar to steel
- Weight similar to aluminum
- · CTE equivalent to aluminum
- · Part total cost comparable to current solutions
- · Low tooling cost

- · Class A surface without post-treatment
- · HPPC energy absorption for pedestrian safety (hoods)
- · Online and offline painting options

HPPC will be a family of multiple products taking advantages of GE Plastics different resins and the flexibility of HPPC sandwich construction. As shown in Figure 2, the first three products that are planned for launch are a nonconductive offline painting HPPC (based on Noryl PPX* PPO/PP blend resin technology), a non-conductive online painting HPPC (based on Xenoy* PC/Polyester blend resin technology), and a conductive online painting HPPC (also based on Xenoy* PC/Polyester blend resin technology). Offline paintable HPPC is targeted to be available for developmental sampling in the fourth quarter of 2006, while non-conductive online painting HPPC is targeted for third quarter of 2007 and conductive online painting HPPC is targeted for developmental sampling by the fourth quarter of 2007.

Heat Resistance

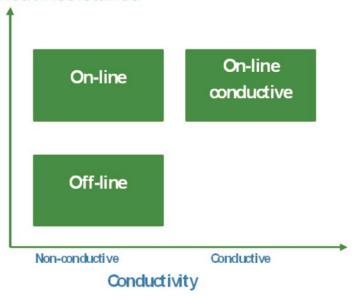


Figure 2: Initial HPPC family of products

HPPC Online Painting Capability

The flexibility of its construction allows differentiation in the core resin system, skin resin system and layer construction within the HPPC family of products. Following initial developments the capability exists to expand the range to include versions with increased stiffness or with pre-finished surfaces. Adding more unidirectional reinforced skin layers will increase the stiffness of the overall system, and the possibility of unpainted solutions is available using Lexan SLX* films (colored or clear plus a woven carbon layer). Figure 3 describes some of these possibilities.

The compatibility of the HPPC resin system with the chemicals used in the e-coat process has been tested in a second step for HPPC online painting validation. The results of initial chemical resistance testing look positive.

Stiffness

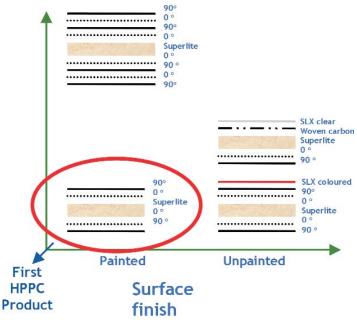


Figure 3: Future HPPC possibilities

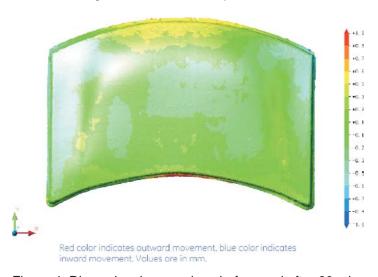


Figure 4: Dimensional comparison before and after 60 min. cycle at 210° C

Class A Surface and Cycle Timing

In order for HPPC to be a viable product for horizontal body panels, its ability to deliver Class A surfaces out of the has to be demonstrated. In addition, for HPPC to be economically attractive for annual productions up to 50,000 units, a cycle time for a part with the size of a hood skin should be around 2 minutes. One method to achieve these targets which GE Plastics and Azdel have been pursuing is a conversion process based on Inductive Mold Heating.

Azdel acquired, on March 31, 2006 an exclusive license to utilize the Cage System (Trademarked by RocTool) for Transportation Devices with a Class A surface using thermoplastic materials in thermo compression and thermoforming processes. The exclusive license is valid for the life of the patents. Azdel has the right to sub-license this

Tech Article - continued from page 5

technology for others to fabricate molds or manufacture parts.

Azdel and GE Plastics have been working with RocTool and their cage system molding technology for approximately 2 years. During this initial development period, the companies have jointly designed and commissioned 3 exterior body panel tools ranging in size from a 1:4 scale automotive hood tool to a full-size scale automotive hood tool. Figure 5 shows a part molded in the 1:4 scale hood and Figure 6 shows full size developmental hood.



Figure 5: 1:4 scale hood



Figure 6: full size developmental hood

The Cage System uses electric induction to heat the surface of a tool. A special tool construction is utilized to reduce the thermal mass of the portion of the tool that is heated, hence a fast cycle can be achieved to heat and cool the tool.

The goal of the development work has been to reduce the cycle time required to produce a class A, thermal plastic composite body panel by an approximate factor of 30. Although this goal has not been fully realized yet, a line of sight to its fulfillment has been established. In addition to Cage System, GE Plastics has combined proprietary conversion process features in order to tailor-made the process for fast cycle large automotive body panels. The combination is named Induction Molding. Figure 7 shows an overview of the process.

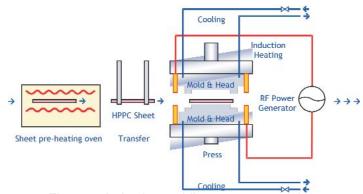


Figure 7: Induction molding process overview

To achieve a Class A surface, beside the conversion process, the unidirectional reinforced skin used in HPPC construction is also critical. During the second half of 2005 and the first quarter of 2006, an intense data based comparison of several available skin technologies was conducted. Several technologies were analyzed, including unidirectional filaments, woven fiber tows, and fabric weave, in combination with fabrication processes based on solvent, slurry, powder, melt, co-mingled fibers, and film stacking. Unidirectional filaments showed to be the best option to achieved the right balance between mechanical performance, aesthetic performance, and cost.

Pedestrian Head Impact

In order to evaluate the performance an HPPC hood in



relation to pedestrian protection regulations, a version of the non-conductive online paintable HPPC has been characterized in high-speed impact tests; multiple proprietary hood inner structure design solutions were created; and these solutions are currently under CAE evaluation for pedestrian head impact performance. After an inner design is selected, a full size generic hood (inner plus outer) will be built and tested in GE Plastics facilities in Moka, Japan. HPPC pedestrian head impact performance testing is expected to be completed by the end of 2006.

The high-speed material characterization showed very promising results, such as:

- · Tensile behavior that does not vary significantly with temperature
- · A repeatable impact behavior
- · Energy absorbing characteristics with reasonable stiffness and deformation behavior, and
- · High speed tensile testing shows the modulus remains the same at different loading rate. The material shows strain rate behavior indicating it is insensitive to loading rate.

Green PBT polyester

In a move that significantly reduces the emission of greenhouse gasses during the production of plastic resins, GE Plastics has developed a proprietary chemical process to convert PET bottle waste into virgin PBT polyester resin. It will be possible to use this PBT resin in the production of the Xenoy* blend used in online paintable versions of HPPC. This opens a significant opportunity for automakers to manufacture large body panels with a considerable content of post-consumer recycled product.

Conclusions / Further Work

Further work in this development is under way on several fronts, including: optimization of non-conductive online painting HPPC; addition of conductivity to it; development of a offline painting HPPC; optimization of Induction Molding for better surface and reduced cycle time; optimization of skin layer for better surface; and part design development, simulation and prototyping for pedestrian head impact performance.

So far, all initial signals show that HPPC can be a viable and very attractive solution option for thermoplastics to get into automotive horizontal body panels.





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ANTEC 2007 Call For Papers

ANTEC 2007

Annual Technical Conference - Cincinnati, Ohio May 6-10

The SPE Annual Technical Conference (ANTEC) will take place in Cincinnati, Ohio at the Duke Energy center from May 6 - 10, 2007.

Do you have a paper that you would like to present to the world's largest international gathering of engineers, scientists, and business professionals in plastics? It is an opportunity to receive feedback and discussion on your paper from leaders in the plastics industry.

Submit your abstract in the Automotive Division Session. The Automotive Division Session of ANTEC is well attended each year by leaders in the Automotive Industry. This year the Chair for the Automotive Division Session is Tom Pickett. Also helping on the ANTEC Automotive Session is Dr. Norm Kakarala, Dr. Jay Raisoni, Dr. Suresh Shah, and Michael Shoemaker.

Authors must first submit an abstract by October 16, 2006. For more information about ANTEC, visit the SPE-ANTEC 2007 website: www.antec.ws

Technical Abstract and Paper Submission Deadlines
The ANTEC abstract submission site is now OPEN!

http://antec2007.abstractcentral.com/

Abstract Submission Deadline: October 16, 2006

Paper Submission Deadline: December 4, 2006

Final Paper Revision Deadline: January 10, 2007

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Design and Development with



Automotive Engineering Plastics

"Auto EPCON"

1-Day Technical Conference & Exhibition

Date of Conference: Tuesday April 24, 2007

Call for Technical Presentations

Deadline for Abstracts: Friday

February 16, 2007

Location of Conference:

Best Western Sterling Inn, Sterling Heights, MI

Contact Information:

Co-Chairs/Sponsorships

Tom Pickett, General Motors 586-492-2454 tomjpickett@yahoo.com
Nippani Rao, DaimlerChrysler 248-576-7483
nr2@daimlerchrysler.com

Technical Presentations:

Dr. Norm Kakarala, Delphi Corp. 248-655-8483 norm.kakarala@delphi.com

Management Forum:

Terry Cressy, DuPont Automotive 248-583-8102 terrence.q.cressy@usa.dupont.com Ron Price, Global Polymer Solutions 248-563-6343 price525@aol.com

Registration:

Pat Levine, SPE 248-244-8993 p.levine@yahoo.com Program Scope: The Automotive Division and Detroit Section of the Society of Plastics Engineers (SPE®) International invite you to attend a new 1-day technical conference & exhibition showcasing innovative developments in the Design, Materials, Processing, & Use of Engineering Plastics for the Global Automotive Industry.

Who Should Attend: This conference is specifically designed to inform, update and educate the OEM & supplier communities about advances in both thermoset & thermoplastic engineering polymers. Learn how these widely-used materials can help improve performance & productivity, while reducing cost and mass.

<u>Presentations:</u> Hear Technical Presentations on the Newest Advances in Engineering Materials related to:

- Design Engineering
- Materials Development
- Processing & Enabling Technologies
- New Applications & More

Exhibits: See Exhibits from Engineering Plastics Suppliers, Compounders, Additives & Reinforcement Suppliers, Design & Engineering Firms, & Machinery Suppliers. Experts will show you how to apply the latest technologies to your next program.

Conference Includes:

> Full Day of Innovative Presentations, Lunch & Coffee Breaks. Exhibits of Advanced Technologies & Practices, Keynote Speaker, Panel Discussion

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- 5 Cockpit Environment Celanex, Vandar, Riteflex, Celcon
- Underbody Skid Plates
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- 7 Advanced Fuel Delivery Celcon, Fortron, Celanex, Riteflex
- 8 Seating & Restraint Celcon, Celstran, Riteflex, Celanex, Vandar



9 Multi-functional Roof Celcon, Celanex, Fortron, Celstran

10 Instrument Panels Celstran

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12 Mirror Housings Celcon, Celanex, Celstran

13 Wiper Plenums Celcon, Celanex, Celstran

14 Lighting Housings Celanex, Vectra, Fortron

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Fortron® Polyphenylene Sulfide

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- Superior thermal and chemical resistance
- Toughness
- Rigidity
- Dimensional stability
- · Wide temperature use range

Riteflex® Thermoplastic Polyester Elastomer

- Excellent toughness and fatigue resistance
- · Outstanding chemical resistance
- Good low temperature impact
- Wide temperature use range

Vandar® Thermoplastic Alloys

- · Excellent chemical resistance, ductility and stiffness
- High impact strength at low temperatures

Vectra® Liquid Crystal Polyester

- Superior thermal characteristics and dimensional stability
- High strength and modulus
- Broad chemical resistance
- · Low mold shrinkage
- Excellent electrical properties
- Inherent flame resistance



36th-Annual Innovation Awards Gala

Continued from page 1

made up of OEMs, tier suppliers, and polymer producers work for months to hone submission forms and presentations describing their part, system, or complete vehicle module and why it merits the claim as the 2006 *Most Innovative Use of Plastics*. This year's competition will feature awards for best innovation in the following categories:

- ◆ Body Exterior,
- ◆ Body Interior,
- ◆ Chassis/Hardware,
- ◆ Environmental,
- Materials.
- Performance/Customization (Automotive Aftermarket),
- ◆ Powertrain,
- Process/Assembly/Enabling Technologies,
- Safety.

In addition, the Hall of Fame Award is presented to a part or application that has been in continuous

commercial production for 15 or more years.

We have significantly revamped our sponsorship opportunities for this year's event by adding several new and exciting levels, which are packed with features our past sponsors have requested. Levels range from Bronze at \$4,000 all the way up to Program Sponsor at \$50,000. Details of each level will be coming are available on our website at www.speautomotive.com.

We look forward to another record-setting event, which will incorporate elegance, intrigue and one of the year's best networking opportunities. Plan now to attend the most spectacular event of the year. We fully anticipate a sold-out event so plan accordingly so you don't miss out. If you have any questions, please contact Brian Grosser, 2006 Innovation Awards Chair at (248) 941-9368. For sponsorship or ticket sales, please contact Pat Levine at (248) 244-8993.

2005 SPE Automotive Division Grand Award Winner

"Most Innovative Use of Plastics"

Composite In-Bed Trunk on the 2006 Honda Ridgeline



The Body Exterior and Grand Award winning team for the Honda Ridgeline In-Bed Trunk system. Team members include David Edwards, Jason Ruminski, Mike Ishmael, Jim Ryan, Kevin Thelen, Steve McKenzie, Fran Leveque, Dan Dowdall, Pat Jeakle, Andy Swikoski, Steve Pelczarski, Jerry Omillion and Pat DePalma.

Executive Leadership Award

James A. McCaslin, president and chief-operating officer at Harley-Davidson Motor Company, has been named the 2006 recipient of the SPE® Automotive Division's prestigious Executive Leadership Award. McCaslin will receive the award at this year's 36th-annual SPE Automotive Innovation Awards Gala on November 13.

Started in 2004, the Executive Leadership Award honors transportation-industry executives who have demonstrated leadership in integrating polymeric materials on global vehicle platforms and who have been recognized - both within their industry as well as in their community - as leaders. While this award's recipient may not have been directly involved in fostering technical advances with polymers - as recipients of SPE's Lifetime Achievement Award have done - the honoree will have led his/her company to profitability, increased market share, and been at the helm of new vehicle launches that were considered a commercial success. McCaslin w as selected as this year's recipient because of his background implementing polymeric components in the auto industry, as well as his manufacturing experience in the auto, agricultural machinery, and motorcycle segments, and his leadership at Harley-Davidson.

Only two previous executives have received this award. These include: **James Padilla**, chief-operating officer and president, Global Automotive Operations, Ford Motor Company; and **Tom Edson**, director, Applied Material and Manufacturing Technology, Advanced Vehicle Engineering, at DaimlerChrysler.

McCaslin has been with Harley-Davidson since 1992 and has been president and chief-operating officer (COO) since 2001. During his tenure as president and COO, Harley-Davidson's motorcycle revenues have risen 59% from annual sales of \$2.63 billion to \$4.18 billion USD; and Parts & Accessories revenues have increased 60% from annual sales of \$507.3 million to \$815.7 million USD. Prior to his current position, McCaslin held the position of vice-president - Dealer Service from 1999 - 2001; vice-president - Continuous Improvement from 1997-99; vice president and general manager - York, Pa. Assembly Plant from 1994-97; and general manager of the plant from 1992-94.

Before joining Harley-Davidson, McCaslin worked for J.I. Case, the 160-year-old agricultural and construction equipment OEM, from 1990 to 1992. There, he held positions as general plant manager - East Moline, III. Combine Plant; vice-president - Engineering, Agricultural Equipment & Components; and general plant manager - Hamilton, Ontario Farm Implement Plant.

McCaslin began his career in the automotive industry in the Detroit area. He worked for the then Chrysler Corporation from 1983 to 1989. When he left the company, he was director - Product & Quality Engineering, Masarati Project,



James A. McCaslin, Harley-Davidson Motor Company

Milan, Italy. Previously, he was acting plant manager - Engine Plant; production manager - Truck Assembly Plant; and manager - Product & Quality Engineering. Before Chrysler, McCaslin was employed by Volkswagen AG from 1977 - 1982. His positions included general superintendent - Quality Control, staff engineer - Production Engineering; and resident engineer.

His first career assignments were at the Chevrolet Division of General Motors Corporation, where he worked from 1966 - 1976. He held positions as warranty analysis test engineer; senior quality engineer; and regional quality engineer. McCaslin worked as a student co-op at the Casting Plant while attending school.

McCaslin - who was born in Flint, Mich. and raised in Saginaw, Mich. - holds a bachelor's of science degree in Industrial Engineering from the then General Motors Institute (now Kettering University / GMI) and a master's ofscience degree in Industrial Engineering from Virginia Polytechnic Institute and State University. He has also attended Harvard University's Graduate School of Business Administration and the Advanced Management Program's International Senior Manager's Program.

A motorcycle enthusiast for over a decade, in his spare time, McCaslin also serves as board chairman for the Manufacturing Skills Standards Council, a non-profit industry coalition. He is also a board member of the Boys & Girls Club of Greater Milwaukee.

Prior to the start of the SPE Automotive Innovation Awards Gala, McCaslin will be introduced to the media at a short press conference, and then honored at a VIP cocktail reception reserved for program sponsors and senior-level automotive executives. The VIP cocktail reception, this year sponsored by Ticona Engineering Polymers, has been called "One of the absolute best networking opportunities in town" by supplier executives attending the event.

Global Executive Engineering Leadership Award

Chris P. Theodore, vice-chairman of American Specialty Cars (ASC, www.ascglobal.com), has been named the 2006 recipient of the SPE® Automotive Division's new Global Executive Engineering Leadership Award. Theodore will receive the award at this year's 36th-annual SPE Automotive Innovation Awards Gala on November 13.

New this year to SPE's lineup of executive leadership honors, the Global Executive Engineering Leadership Award was created to recognize an executive who has exhibited outstanding engineering leadership throughout his/her career and is considered to be an "Automotive All-Star" with in the global transportation industry. Candidates are evaluated based on their overall leadership in engineering roles throughout their careers, as well as the success of their performance in these roles, such as the number of new vehicles the candidate championed, had significant involvement in, or launched.

Often called the "Father of the Ford GT" and "an engineer's engineer," Theodore has been associated with a number of high-profile vehicle launches - including the Ford GT, new Ford Mustang®, new Ford 150 pickup, Chrysler PT Cruiser®, original Dodge Viper®, second-generation Chrysler minivans, original Jeep® Grand Cherokee, and the Fiat Spyder Turbo in the early '80s - and has held notable executive engineering positions at several major vehicle manufacturers during his 30+-year career in the auto industry.

Theodore has been vice-chairman of ASC since October 2005, where he is responsible for the company's product-development activities. Prior to this, he was employed by

Ford Motor Company from 1999-2004, beginning as vice-president of North American Product Development and retiring as vice-president of Advance Product Creation.

Before this, Theodore was employed by DaimlerChrysler Corporation from 1989-1999, rising from executive engineer to general manager of the minivan and small-car platform teams, and then to senior vice-president of Platform Engineering for the corporation. During this time, he helped design the Chrysler Technology Center. From 1985-1987, he was director of Engine Engineering at American Motors Corporation, and later chief advance engineer of the Jeep Grand Cherokee.

Theodore has previously worked in the specialty-car segment. He was vice president of Engineering at Cars & Concepts Inc. of Brighton, Mich. from

1982-1985, where he launched the Ford Mustang convertible, the Dodge Daytona T-Top, and numerous other products. Also, from 1980-1982, he worked for Legend Industries of Hauppauge, N.Y. - the first independent company to be recognized by the U.S. Environmental Protection Agency as a vehicle manufacturer. There, Theodore oversaw development of the Fiat Spyder Turbo and DeLorean Twin Turbo.

His career began with stints at all of the "Big Three," working at Chrysler Corporation from 1975 -1980 as senior chassis engineer on the original Chrysler minivans, and on the Chrysler/Calspan Research Safety Vehicle. From 1974-1975, he worked at the Detroit Diesel Division of General Motors Corporation as a research engineer on the company's four-stroke diesel program.

He began his professional career at Ford as a product engineer, developing the "Easy Rider" pneumatic cab suspension for the Ford C L9000 truck. He also was a college in tern and engineer in Ford's Heavy Truck Group, helping develop instrumentation for Ford's first turbine truck.

Educationally, Theodore holds an MBA from Michigan State University (1989), an MSME from the University of Michigan-Dearborn (1975), and a BSME from the University of Michigan (1972).



Chris P. Theodore, American Specialty Cars

Lifetime Achievement Award

Barbara A. Sanders, director of Advanced Development & Engineering Processes at Delphi Thermal Systems, has been named the 2006 recipient of the SPE® Automotive Division's prestigious Lifetime Achievement Award. The honor recognizes the technical achievements of automotive industry executives whose work - in research, design, or engineering - has led to significant integration of polymeric materials on passenger vehicles. Ms. Sanders will receive the award at this year's 36th-annual SPE Automotive Innovation Awards Gala on November 13.

There have only been 5 previous recipients of the SPE Lifetime Achievement Award. Upon her acceptance, Ms. Sanders will join J.T. Battenberg, III (past-chairman and CEO of Delphi), Bernard Robertson (executive vice-president of DaimlerChrysler), Robert Schaad (chairman of Husky Molding Inc.), Tom Moore (retired vice-president of DaimlerChrysler), and Shigeki Suzuki (general manager - Materials Division, Toyota Motor Corporation).

Barbara A. Sanders was selected as this year's recipient because of her extensive background with polymeric materials - particularly composites - throughout her career at Delphi and General Motors Corporation (GM). Sanders began her professional career designing materials-characterization methodologies for fiber-reinforced plastics. The design guide on automotive composites that she developed - Fiber-Reinforced Plastic Test Specifications - has been an industry reference for evaluating these materials ever since. Later, she organized and managed the Materials Testing Laboratory at the GM Technical Center.

As Sanders rose in management, her group implemented the first reinforced reaction-injection molded (RRIM) bumper fascias at GM. Her team received SPE Automotive Innovation Award for use of these materials on the Oldsmobile® Omega® fenders. She also held management positions in many GM departments that had impact on the use of polymeric materials, such as Materials Characterization, Plastics Processing, and Computer-Integrated Systems. And as director of Advanced Manufacturing on GM 's Advanced Engineering Staff, Sanders had responsibility for composites, coatings, welding, and assembly systems.

With a passion for innovation and instincts for good technology, Sander's teams have cumulatively received over 50 U.S. patents in the areas of plastics materials and process technologies and garnered numerous industry awards. For instance, her team helped trial the auto industry's first lightweight gas-assist injection-molded components, receiving a Society of the Plastics Industry (SPI) Award for Excellence for a composite window guidance channel in 1990, and an SPE Automotive Innovation Award for the NUMMI1 assist-grip handle in 1991. Her team also received a number of awards for the highly integrated Super Plug® gas-assist injection-molded



Barbara A. Sanders, Delphi Thermal Systems

door hardware module. And her team pioneered the power sliding door featuring a number of plastic components, earning another SPE Automotive Innovation Award. In 2000, her team also won an SPE Automotive Innovation Award for the first soft-skin TPO skin material and process technology used on the Pontiac® Bonneville® passenger car.

Barbara A. Sanders has worked for Delphi since 1992, when GM spun off its components divisions to form Delphi. During her 20-year career at GM, Sanders held a variety of roles. She began her career there in 1972 as an experimental physicist.

Sanders holds a professional management degree in Executive Development from Harvard University, a master's of science degree in Physics from Rutgers University, and a bachelor's of science degree in physics from Southern University. She has also attended the Indiana Executive Program. Sanders has received numerous national academic, organizational, and media awards and citations, including an honorary doctorate degree from Southern University, the U.S. Black Engineer Award: Outstanding Engineer - Professional Achievement, and the Distinguished Alumni Award from the National Association for Equal Opportunity.

A published author with numerous technical papers to her credit, Sanders has also been an editor for an ASTM special technical presentation, and sits on the editorial advisory board at the Journal of Reinforced Plastics & Composites. Additionally, she is an invited speaker at numerous civic, academic, and institutional events. In her spare time, Sanders volunteers for a number of civic and professional organizations. She is married, has one child, and enjoys reading, computers, and photography.



Attend the 36th Anniversary **Innovation Awards Program**

Don't miss this fantastic evening. See first hand the latest innovations in the award categories of Body Interior, Body Exterior, Materials, Environmental, Performance and Chassis/Hardware, Customization. Safety, and Process/Assembly/Enabling Technologies.

All nominated applications will be on display for you to review in detail. The Automotive Division Innovation Awards Gala is an evening you do not want to miss!

Individual tickets are \$160 each, a table of 10 is \$1,500. and includes corporate signage. The ticket order from can be downloaded from the Automotive Division website at:

http://www.speautomotive.com/inno.htm

Membership Matters

Marcie Kurcz Below we welcome some of our newest members of the SPE Automotive Division: Christopher Weis Pete Evers Azdel Dana Black DaimlerChrysler Christopher Stein Composite Design Studios Jon Hursey Nypro Inc Jackie Rehkopf Pat DePalma Robert Kottyan Meridian Composite Products Brennon Edwards Nova Chemicals Inc Tomoo Hirota Sumitomo Chemical Co. LTD **USG** Corporation Raz Potashnik Vernay Lab James Axley David Pudduck Hans Tilschner Roechling Automotive Bruce Schuetz Collins & Aikman American Lewa Inc Luke Chow Jose Luis Aced PolyOne Prime Manufacturing Mary Gilliam Eric Dawkins Siemens VDO Technologies, Inc. Pierre Perdoux Plastic Omnium Auto Exterior Michelle Culver John Bailey & Associates PR Gerry Pohl **Recycling Concepts** Frank Koger X-Rite Inc Dow Automotive Johanne Wilson Cynthia Wright Lacks Enterprises John Hacskaylo Thomas Wilson Patrick Tobin Gary Kachin Rhodia Engineering Plastics Basell USA Inc Han-Tek Inc Saied Kochesfahani Rio Tinto Minerals Vineet Kapila **BASF** Corporation John Reynolds Belletech Corp Michael Sullivan Rosti Technical Plastics Ltd Timothy Geiger **Detroit Testing Laboratory Inc** Harold Nusbaum Trimech Solutions North American Lighting Daniel Corrigan Halla Climate Control Corp Robert Johnson Chris Kocher **DuPont** Society of Plastics Engineers Adam Secord Necocon International Inc Alan Romack **Bowles Fluidics Corp** Bonnie Kaczowski A Schulman Inc Wally Petros Windsor Mold Group Bryan Stratton Sukwoo Hong Robert Tumminaro **ITW Filtration Products** David Eichner Private Search International Robert Mozian Sencorp Inc Harry Warner Phillip Dunk **EMSI** Katherine Glasgow **GE Plastics** Ferro Corporation Dave Russell Smithers Scientific Services Thomas Curtis Blair Bissell MP Components John Repasky Alex Semeczko Jeffrey Bailey Soliant LLC Joe Schulcz **RPDG** Santhosh Krishna Chandrabalan Tony Moran



Councilor's Corner

Nippani Rao

I attended the fall Councilor meeting in Pittsburgh, September 29-30 and the following summarizes the events.

Budget

Council approved the proposed 2007 Budget. The budget represents an improvement in the overall financial performance of SPE. Budgets for 2005 and 2006 were based on generating net incomes of just under \$80,000. The proposed 2007 budget anticipates net income of \$115,000 or roughly a 45% increase.

The key reasons for the increased net income are:

- Improved SPE's Journal sales, about \$130,000
- All new Plastics Engineering Magazine, staring from January Issue. More global in nature, editorial refocus, and new sales team with added ad. Space is expected to be profitable.
- SPE has a new business partner for ANTEC, Plastics News magazine. Plastics News will manage the trade show and SPE will manage the technical sessions, speakers and seminars. This change in 2007 ANTEC structure will greatly reduce costs and boost net revenue by about \$150,000

Total Income for 2007 is \$5,655,000 and expenses \$5,540,000 with net revenues of \$115,000. Details of the budget are on the SPE Website - www.4spe.org

<u>Membership</u>

Membership is expected to be flat at 18,875. The membership rates have been increased by a few dollars. Regular member rate is now \$118 per year, and the student and Emeritus rate is now \$30.

ANTEC

ANTEC 2007 in Cincinnati is projected to generate net

revenue of \$370,000 with an Income of \$650,000 and expenses \$280,000. This is about \$150,000 more in net revenue than ANTEC 2006. The key reason for this is partner with Plastics News magazine, which reduces overhead and increases registration income. Plastic News's, Plastics Encounter trade show is expected to draw about 2000 people. A detailed presentation of the new partner and the benefits was presented and the Council approved the new plan, which increases Industry participation and revenue

All New Plastics Engineering Magazine

A comprehensive presentation was made on the new format and will be introduced starting January 2007. Some of the new features are editorial refocus, graphical redesign, global in nature, not just coverage of the United States, as in the previous years. Separate sections will cover various regions such as US, Europe and Asia. Additional Advertising pages, new sales structure and improvements in the printing process and aggressive cost reduction ideas will provide improved revenues.

Division's Meeting

Updating the Speakers list was discussed. The list is available in 3 locations, Leadership Service Home page, Conference Central and Student Chapter list. If any one wants to add names please send the information to Maria Russo at HQ. In a few weeks Maria will add a speaker's list blank page to add new names on line. Automotive Division has only 2 names and we need to add few more.

Pinnacle Award Committee

The last date to submit this year is November 15th. The SPE staff will review and recommend Pinnacle award. The Pinnacle Committee is the final approver and to judge borderline situations or special circumstances.

Next council meeting is scheduled for January 27, 2007 at Charleston, SC



Visit the SPE International Website for up-to-date information on training, seminars, and other career enhancing information.

www.4spe.org





Meeting Minutes - Automotive Division Board Meeting

by Tom Pickett, Division Secretary

Meeting Minutes from September 18, 2006 SPE -Automotive Division Board Meeting by Tom Pickett

Attendance:

Mark Lapain, Tom Pickett, Norm Kakarala, Peter Lipp, Rahul Mukerjee, Fred Deans, Jay Raisoni, Dave Reed, John Fialka, Maria Cilberti, Suresh Shah, UV Umamaheswaran, Peggy Malnati, Nippani Rao, Ron Price, Monica Prokophyshen, Josh Madden

Meeting Called to Order. Chairman Mark Lapain called meeting to order at 5:35 PM. Meeting minutes recorded by Secretary Tom Pickett.

Opening Comments & Chair's 2006-07 Goals. Mark Lapain reviewed the chair's objectives with the board. He listed the following: Concise & organized Board meetings, representation from more companies, continued improvement of key events, win the Pinnacle Award, and have fun.

SPE Automotive Open Board Seats. Mark listed the current Board of Directors. He also listed the new directors: Ron Price, Peter Lipp, and Denise Carlson.

Composites Conference Summary. Fred Deans and Peggy Malnati updated the Board on the successful Composite Conference. The Board acknowledged the great job that Fred, Peggy and their team did in making it a successful conference. Peggy handed out CDs of the conference to the Board members. There was very good attendance at the conference.

Innovations Awards. Monday, November 13th is the date

for the Innovations Awards banquet at the Burton Manor in Livonia. Special Awards will be given to Barbara Sanders, Delphi, Jim McCaslin, Harley Davidson, and Chris Theodore, ASC. The team is working hard on obtaining sponsorship to meet the target. Ticona is the VIP reception sponsor. Peggy Malnati showed the nice logo. BOD judging is October 4 and 6th at the Troy APC.

Auto EPCON. Tom Pickett informed the Board that volunteers are welcome to join the Automotive Engineered Plastics Conference (Auto EPCON) Planning Committee. Nippani Rao, Norm Kakarala, Jay Rasoni, Suresh Shah, Ron Price, UV, Maria Ciliberti, and Al Murray informed Tom that they plan to be on the committee. Maria indicated that a coworker from Ticona is interested. The first planning meeting is scheduled for Monday 9-25-06 11:00AM at the Troy APC.

Treasurers Report. John Fialka update the board on SPE Automotive Division bank account balance. There is \$128K in checking and \$27K in savings. The Golf Outing was a financial success netting \$2.4K. John plans to have the final update on the financials of the Composites Conference for the next newsletter. Taxes are due on November 15, 2006.

Education (including PlastiVan Schools). Monica Prokopyshen handed out the proposed schools the Plastivan to visit in 2006 - 2007. SPE Automotive Division plans to coordinate with the Detroit Section to make sure there is no overlap of Plastivan school visits. Innovations Awards plan to have student ushers.

Membership. No report.

Continued next page



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Automotive Division Board Meeting

Inter-Society. No report.

Councilor's Report. Nippani Rao indicated that the Council meeting is next week in Pittsburg, PA. The budget will be discussed.

Golf Outing. Fred Deans informed the board that the Golf Outing was profitable.

Newsletter. There is one more newsletter to publish before the Innovations Awards.

Communications - Publicity. Peggy Malnati showed publications from the Composite Conference and the logo for the Innovations Awards.

Pinnacle Award. Mark Lapain indicated that deadline is coming up for the Pinnacle Award. Mark reviewed the requirements and received input from the board.

Open Issues and Conclusion. Maria discussed the possibility of presenting an award to an individual at the Innovations Awards. The SPE website needs to be updated. Need sponsorship money for Innovations. Al Murray e-mail address needs to be updated.

Meeting Adjourned - Mark Lapain thanked everyone for coming to the Board Meeting. Meeting adjourned at 7:30pm.

Next Meeting. December 4, 2006.



"Most Innovative Use of Plastics" Trophy



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Automotive Division Directory

Division Officers and Executive Committee

Mark Lapain, Chairman

Intier Automotive (248) 567.5455

mark.lapain@intier.com

Brian Grosser, Chairman-Elect

DieTech North America (586) 771.8580

bgrosser@dietechna.com

Tom Pickett, Vice-Chair/Secretary

General Motors Corporation

(586) 492.2454

tomipickett@yahoo.com

John Fialka, Treasurer

fialkaj@basf-corp.com

BASF Corporation (248) 471.3345

Nippani Rao, Division Councilor

DaimlerChrysler (313) 576.7483 nr2@dcx.com

Dr. Norm Kakarala Past-Chairman

Delphi Corporation (248) 655.8483

Dr. Fred E. Schwab, Director Emeritus

Group Four Associates (734) 464.1103

Josh Madden, Director Emeritus

Material Engineering Services (248) 505.2776

Dr. Allan Murray, Director Emeritus

Ecoplexus, Inc. (248) 814.8072

Gordon Miesel, Director Emeritus

(248) 475.5766

Committee Chairpersons

Dr. Jay Raisoni, Technical Programs

Delphi Corporation (248) 655.8258

Monica Prokopyshen, Education

DaimlerChrysler Corporation

(248) 576.7349

Marcie Kurcz, Membership

Solvay Engineered Polymers, Inc.

(248) 756.0267

Brian Grosser, '06 Awards Program

DieTech North America (586) 771.8580

Fred Deans

'07 Golf Outing

Azdel, Inc. (248) 760.7717

Tom Pickett,

'07 ANTEC

'07 Auto EPCON

General Motors Corporation

(586) 492.2454

Jackie Rehkopf, Inter-Society

Exponent Inc.

(248) 324.9128

Peggy Malnati, Communications

Malnati and Associates

(248) 592.0765

Kevin Pageau, Newsletter Editor

SCA North America (248) 835.4999

Teri Chouinard, Newsletter Sponsorship

Intuit Group, LLC (810) 797.7242

Directors to May 2007

David Reed (810) 986.5336

General Motors Corporation

Venkatakrishnan Umamaheshwaren (248) 262.2600

GE Plastics

Ed Garnham

Suzanne Cole (810) 750.3863

Cole & Associates

(248) 647.8455

Directors to May 2008

Kevin Pageau

SCA North America

Jackie Rehkopf

Exponent Inc.

Dr. Suresh ShahDelphi Corporation

Dr. Jay Raisoni

Delphi Corporation

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(248) 835.4999

(240) 224 0420

(248) 324.9128

(248) 655.8695

(248) 655.8258

Directors to May 2009

Bonnie Bennyhoff (248) 350.6573

Advanced Elastomer Systems

Peggy Malnati (248) 592.0765

Malnati and Associates

Maria Ciliberti (248) 592.7483

Ticona

(248) 760.7717

Fred Deans Azdel, Inc.

Visit our website at <u>www.speautomotive.com</u>
Automotive Division Hotline - (248) 244.8993



Society of Plastics Engineers Automotive Division 1800 Crooks Road Suite A Troy, MI 48084 USA