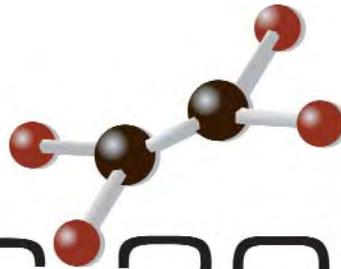


# *Automotive Plastics* *News*

Today, Tomorrow - Together

April 2006 Volume 35, Issue 3



## ANTEC 2006

Annual Technical Conference

Charlotte, North Carolina May 7-11

The SPE Annual Technical Conference (ANTEC) will take place in Charlotte, North Carolina May 7 - 11, 2006. The conference is the world's largest international gathering of engineers, scientists, and business professionals in plastics. It is an opportunity to hear presentations from leaders in the plastics industry.

On Tuesday, May 9th, the Automotive Division will have a full day session at ANTEC. The Automotive Session has excellent technical papers. Thanks to Norm Kakarala, Jay Raison, Suresh Shah, Michael Shoemaker, and Kalyan Sehanobish who helped ANTEC Chair Tom Pickett, organize the session.

The Automotive Session will be an informative session covering the technical issues and advances in plastics for the automotive industry. There are six technical presentations in the morning. In the afternoon session, Dr. John Hacskeylo, VP of Dow Automotive R&D, will provide the keynote address. There will be six technical presentations in the afternoon session. Jay Raison and Mark Murphy are the moderators. The session concludes with the Automotive Division business meeting.

Visit [www.ANTEC.ws](http://www.ANTEC.ws) for complete information on all events and activities related to ANTEC 2006.

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# Treasurer's Report

Brian Grosser

As of March 16, 2006 the total funds for the SPE Automotive Division stood at \$47,808.73. This balance is very good for our Society for this time of year and includes several large payments for Conference deposits and consulting fees for upcoming events. The balance is also \$10,000 short as we are still owed 1 payment for the 2005 Awards Event, however this payment will be received shortly.

We have made significant strides in improving the financial health of our Newsletter through additional sponsorships/advertisements. Thanks to Teri Chouinard for beefing up these efforts. The Newsletter is a vital tool for communicating to our members and we will continue its publication quarterly.

We continued our funding of local institutions/plastic related programs by contributing \$3,000 to the Center for Creative Studies, \$13,800 to support the Plastivan Tour at local schools, and \$2,500 to SPE National for the Fred Schwab Memorial Award. All of our members should feel very proud of these accomplishments.

## Automotive Division Meeting Schedule and Special Events Calendar

Engineering Plastics Conference Sterling Inn, Sterling Heights, MI	April 25, 2006
ANTEC 2006 Charlotte Convention Center Charlotte, NC	May 7-11, 2006
Division BOD Planning Meeting APC, Troy, MI	June 2006 (exact date TBD)
SPE Detroit Section Golf Outing Twin Oaks Golf Club, Oakland, MI	July 12, 2006
SPE Automotive Division Golf Outing	August 2006 (exact date TBD)
Automotive Composites Conference MSU Management Education Center, Troy, MI	September 12-14, 2006
Automotive TPO Global Conference Sterling Heights, MI	October 8-11, 2006

Automotive Division Board of Directors meetings are open to all SPE members. Call Norm Kakarala at (248) 655.8483 for more information.

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# Chairman's Message

Norm Kakarala

This is my last letter to our members as Chair of the SPE Automotive Division, as my term ends in May. We've had a very busy 12 months, as my updates below will reflect.

First, I'd like to remind everyone that we have two important SPE events this spring. On April 25th, our new Automotive Engineering Plastics Conference (AutoEPCON), co-organized with the Detroit Section, will take place at the Best Western Sterling Inn, Sterling Heights, MI. The planning committee has developed a great program. The day starts with a morning keynote by Michael Robinet, vice-president, Global Vehicle Forecasts at CSM Worldwide, Inc. The topic of his 30-minute talk will be "2006 Updated Production Outlook - Factors Facing OEMs and Suppliers in North America." The technical program will contain 22 presentations in 2 parallel tracks, morning and afternoon. After the technical presentations conclude, we'll have an hour-and-a-half AutoEPCON Management Forum with key OEM Materials Engineering Executive Panelists from DaimlerChrysler (Tom Edson), Ford Motor Company (Gary Witt), and General Motors (Dave Mattis). The conference concludes with an evening keynote by Chief Engineer, Gary Flint from Honda R&D Americas, Inc. who will give a presentation entitled "The Power of Dreams - The Ridgeline & More." The event runs from 7:15 a.m. to 8:00 p.m. A schedule of the event is listed in this newsletter and forms, flyers, and other materials are posted on our website at [www.speautomotive.com/emc.htm](http://www.speautomotive.com/emc.htm)

Also this spring is SPE's ANTEC annual technical conference, from May 7-10 in Charlotte, NC. The Automotive Division will hold a business meeting right after our Automotive Plastics sessions on Tuesday, May 9.

This year's ANTEC will be a special time for several of our distinguished board members. Both Suzanne Cole (Cole & Associates) and Thomas Pickett (General Motors) will be inducted as Honored Service Members of SPE at the Awards Banquet. I wish to extend my congratulations to both Tom and Suzanne for all their hard work over the years to advance SPE activities. Also honored at this year's ANTEC Awards Dinner will be Dr. Rose Ryntz of Visteon, who was selected as an SPE Fellow. Dr. Ryntz is highly deserving of this honor with her numerous awards, publications, presentations, and patents. We are proud to have her as a member of the Automotive Division and we congratulate her on this distinguished honor.

I am also delighted to report that the Automotive Division will once again receive both the PRIDE and Outstanding Division awards at ANTEC. I want to thank Mark Lapain and Monica Prokopysphen for completing the lengthy application forms that allowed the Division to qualify for these awards. Both the 2006 SPE Automotive Composites Conference & Exposition (ACCE) and the Innovation Awards Competition and Gala are making rapid progress in planning meetings. The ACCE event will once again be held September 12-14 at the MSU Management Education Center in Troy, MI. Under the chairmanship of new SPE Automotive Division member, Terry Seagrave of Bayer, the program is shaping up well. We'll have additional updates on that elsewhere in this newsletter.

Our Automotive Division treasurer and chair-elect, Brian Grosser of DieTech North America is this year's Innovation Awards chair. Some new tools are being developed to help Category Captains solicit part nominations, to help the Sponsorship Team encourage the aid of corporate sponsors, and to help the planning committee solicit executive award nominations. In fact, this year a new executive award for Science & Education is being created. We will provide more details as the event progresses.

Lastly, I wish to thank you for the privilege of serving as your Division Chair this past year. I will cherish many fond memories of our accomplishments and I hope to continue to serve the SPE as a member.

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# SPE AutoEPCON Conference & Exposition

*Tuesday, April 25, 2006 - Best Western Sterling Inn, Sterling Heights, MI*  
**Automotive Engineering Plastics Conference - Technical Program**

7:15 - 8:15	<b>Registration / Continental Breakfast</b>			
8:15 - 8:30	Opening Remarks - Tom Pickett, General Motors, AutoEPCON Conference Co-Chair			
8:30 - 9:00	<b>Plenary Speaker</b> Michael Robinet, Vice President, Global Vehicle Forecasts, CSM Worldwide, Inc. <i>2006 Updated Production Outlook - Factors Facing OEMs and Suppliers in North America</i>			
9:00 - 9:30	<b>Session 1-A: Materials</b>	Company	<b>Session 1-B: Design and Application Development</b>	Company
	Low-Gloss ABS Advancements for Automotive Interior Components	Dow	Converting Experimental Test Data into Constitutive Model Parameters for Engineering Polymers	Dow
9:30 - 10:00	MAGNUM BRACE, a New Long-Glass-Fiber-Reinforced ABS Composite	Dow	New Developments in Plastic / Metal Hybrid Technology	Lanxess
10:00 - 10:30	Material Selection for the Front-End Carrier	Ticona	Technical Development of Thermoplastic Oil Pan Modules	BASF
10:30 - 10:45	<b>Break</b>			
10:45 - 11:15	New Material Solutions for Engine Cooling and Other Demanding Environments	DuPont	Polymer-Based Composite Roof Systems	Bayer
11:15 - 11:45	Fluid Resistance of DuPont Thermoplastic Vulcanizates	DuPont	Characterizing Short-Fiber-Reinforced Plastics for Failure Analysis	WIDL
11:45 - 12:45	<b>Lunch</b>			
12:45 - 1:15	<b>Session 2-A: Materials</b>	Company	<b>Session 2-B: Design &amp; Application Development</b>	Company
	Revolution and Evolution in Reinforced Engineering Thermoplastics	DuPont	Beyond Polypropylene - Specialty LFRT Materials for Structural Applications	Ticona
1:15 - 1:45	An Innovative Resin Family that Provides Low CTE and High Stiffness While Maintaining Ductility	GE	A New Direction in Plastic Air-Intake Manifolds	Solutia
1:45 - 2:15	Eliminate Gloss Waivers without the Cost of Paint -- Low-Gloss Acetal Copolymer Brings Together Aesthetics and Affordability	Ticona	High-Performance Air-Flow Management: Solving the Materials-Selection Puzzle	DuPont
2:15 - 2:30	<b>Break</b>			
2:30 - 3:00	Xtel* PPS Alloys for Automotive Applications	Chevron Phillips	A Global Energy Absorber Concept for Combined Pedestrian and North American Regulations	GE
3:00 - 3:30	Stanyl PA46 for Automotive Gear Applications	DSM	Advanced Integrated Door Systems -- Providing Performance-Driven Solutions for Material Selection & Integration	Ticona
3:30 - 4:00	Usage of Stanyl PA46 Resins in Engine Turbo System Components	DSM	Failure Analysis Techniques Supporting Plastics, Polymers, & Composites, Including Fluoropolymer Resins	DQR Testing
4:00 - 5:30	<b>OEM Materials Engineering Executive Panel - AutoEPCON Management Forum</b> Tom Edson, Director - Applied Material and Manufacturing Technology, Chrysler Group, DaimlerChrysler David Mattis - Director, Materials Engineering, General Motors Corp. Gary Witt - Chief Engineer of Materials, Ford Motor Company			
5:30 - 6:30	<b>5:30 p.m. Reception</b>			
6:30 - 8:00	<b>6:30 p.m. Dinner</b>			
7:00 - 8:00	<b>Dinner Keynote</b> Gary Flint, Chief Engineer - Honda Ridgeline Honda R&D America, Inc. <i>The Power of Dreams -- The Ridgeline &amp; More</i>			

## Design & Development with Automotive Engineering Plastics...

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Learn more about the latest advances with these versatile materials at a new 1-day technical conference & exhibition – **Design & Development with Automotive Engineering Plastics** – co-sponsored by the Detroit Section and Automotive Division of the Society of Plastics Engineers (SPE®) International.

The conference will be held on **Tuesday, April 25, 2006** at the Best Western Sterling Inn, Sterling Heights (Detroit-area), MI, USA.

To register to attend, learn more about sponsorship opportunities, or to make a technical presentation, see [www.speautomotive.com](http://www.speautomotive.com) or [www.spe.org/communities/sections/01.php](http://www.spe.org/communities/sections/01.php) or contact Patricia Levine, SPE Automotive Division, at +1.248.244.8993 or email [spe\\_automotive\\_detroit@yahoo.com](mailto:spe_automotive_detroit@yahoo.com)



**SOCIETY OF PLASTICS ENGINEERS**  
Detroit Section and Automotive Division



**Gary Flint**, Chief Engineer, Honda Americas, will be the featured dinner keynote speaker at the combined Automotive Division's and Detroit Section's Auto EPCON conference, April 25, at the Best Western Sterling Inn, Warren, MI. Flint's topic is "The Power of



*Dreams - the Ridgeline and More."* He will address Honda processes and philosophy in achieving notable successes such as this year's sweep of the "Motor Trend Car and Truck of the Year" awards.

# Meeting Minutes - Automotive Division Board Meeting

February 6, 2006

by Tom Pickett, Division Secretary

Attendance: Norm Kakarala, Tom Pickett, Nippani Rao, Kevin Pageau, Fred Deans, Peggy Malnati, Ed Garnham, Monica Prokopyshen, Brian Grosser, Maria Ciliberti, Suzanne Cole, Mark Lapain, Josh Madden, Jay Raison, Ron Price, Jackie Rehkopf, Jim Kolb, Rahul Mukerjee, Bonnie Bennyhoff.

1. Meeting Called to Order. Chairman Norm Kakarala called the meeting to order at 5:30 PM. Meeting minutes recorded by Secretary Tom Pickett. Norm invited Ron Price to the Board Meeting. Norm announced that Rose Ryntz was awarded SPE Fellow. Norm congratulated Suzanne Cole for receiving the SPE Honored Service Member Award. Suzanne was sponsored by the SPE Automotive Division. Tom Pickett and Don Root also received the SPE Honorary Service Member Award. They were nominated by the Detroit Section. Norm said the Materials conference is in the planning stages. Norm commented that Terry Cressy has obtained high profile speakers for the conference.

2. Councilor's Report - Nippani Rao updated the board on the January 21, 2006 Council meeting that he attended in Albuquerque, NM. SPE had 20,000 members in 2005, the same as in 2004. The finances have improved. SPE International net income for 2005 was \$75,000. This is the first positive return in years. National is looking at smaller cities for ANTEC to minimize the costs. Len Czuba, President of SPE International emphasized the importance of SPE to grow internationally. The Council elected Vicki Flaris, William O'Connell, Barbara Arnold-Feret, and Jim Griffing as Society Officers for the 2006-2007 term which begins at

ANTEC May 7, 2006. On the Constitution and By-Laws, the Council unanimously voted to dissolve the SPE Constitution and revise the Constitution By-Laws. The motion will go to membership.

3. Update on Long Range Planning Document - Norm Kakarala updated the board on the SPE Automotive Division Long Range Strategy (2006-2009).

4. Input for Pride Report - Mark Lapain completed the Pride Report. The report will be sent to SPE National.

5. Materials Meeting Update - Tom Pickett gave an update on the SPE Materials Conference that will take place on April 25, 2006 at the Best Western Sterling Inn. Ron Price provided input on the sponsors committed for the conference. Norm Kakarala updated the technical program with morning 5 presentations and the afternoon of 10 presentations.

6. TPC Chair Update - Tom Pickett provided an update on ANTEC 2006. The Automotive Division Session is scheduled for May 9, 2006 Tuesday morning with 5 papers and a Tuesday afternoon session with keynote speaker Dr. John HacsKaylo, Vice President of Dow Automotive Research & Development, followed by 7 presentations. Tom recognized Norm Kakarala, Jay Raison, Michael Shoemaker, and Kalyan Sehanobish for helping him put together a great ANTEC session of technical presentations.



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7. Communications - Peggy updated the board on publicizing the SPE Materials Conference which is also referred to Auto EPCON, Automotive Engineering Plastics Conference. It is projected that the program guide could be sixteen pages. Peggy distributed a press release to several hundred national and international trade publications. In addition, she has swapped advertisements with three publications announcing the conference. Peggy gave an update of the Composites Conference publication and distributed the flyer to the board. She has already issued the first press release on this event, updated all flyers and forms, and is well underway in negotiating swap publicity packages with various trade media and engineering societies.

8. Treasurer's Report - Brian Grosser gave an update on the Treasurer report. The net proceeds for the 2005 Awards Banquet are estimated to be \$44,937. The results will be final once all receivables are accounted for. Brian indicated \$61,493.61 is the SPE Automotive balance as of February 3, 2006. The successful ACCE and Awards Banquet events have allowed the division to improve financially. The Newsletter has gained additional advertising sponsorship from Ticona.

9. Awards Committee Report - The board discussed the support for the European Awards Program estimated at \$5,000 to \$6,000. In return for supporting the program, the board would like to have the SPE Mid European Section advertise our SPE Automotive Division events in their newsletter, have European OEM participate in SPE North America Automotive events, and to send nominations to SPE Automotive Award Banquet. Monica will follow up with the SPE Mid European Section. Brian Grosser gave an update on the 2006 SPE Automotive Awards Meeting. The group will begin a new solicitation process to determine the Executive Leadership, Lifetime Achievement, and Chief Engineer Award winners. Brian reviewed the sponsorship packages. The BOD was asked to try to acquire several more industry experts for the Blue Ribbon Panel Judging. There will be a press package for the media and have a formal press briefing.

10. Education Committee Report - Monica Prokopyshen reported the Exploration 2006 is scheduled for April 5, 2006 at Detroit Country Day School. Speaker Orientation / Tour / Brainstorming session is scheduled for Tuesday, March 21st at 6 PM at Detroit Country Day School. The Lightspeed contract is renewed for the 2005 Innovations Awards web update with 2005 award winners' details. Monica provided an update on the web status. The contract is renewed for 1 year for \$450 per quarter.

11. Membership Update - Bonnie Bennyhoff reported membership was flat for this year. Bonnie stressed the importance of adding new members. Bonnie will receive help on membership from Jackie Rehkopf. Bonnie is seeking someone to take over membership.

12. Newsletter - Kevin Pageau gave an update on the newsletter. There is a March deadline to submit articles for the April edition.

13. Inter Society - Jackie Rehkopf agreed to help out on Inter Society.

14. New Business - Fred Schwab documents stored at APC. The committee will look at sending to SPE National. The display of the automotive awards at APC was discussed update. Monica Prokopyshen, Peggy Malnati, and Kevin Pageau will work with Jim Kolb to update the awards.

15. Meeting Adjourned at 7:53 PM. Next Board Meeting will be April 3, 2006 at 5:30 PM at APC 1800 Crooks Road Troy, MI.

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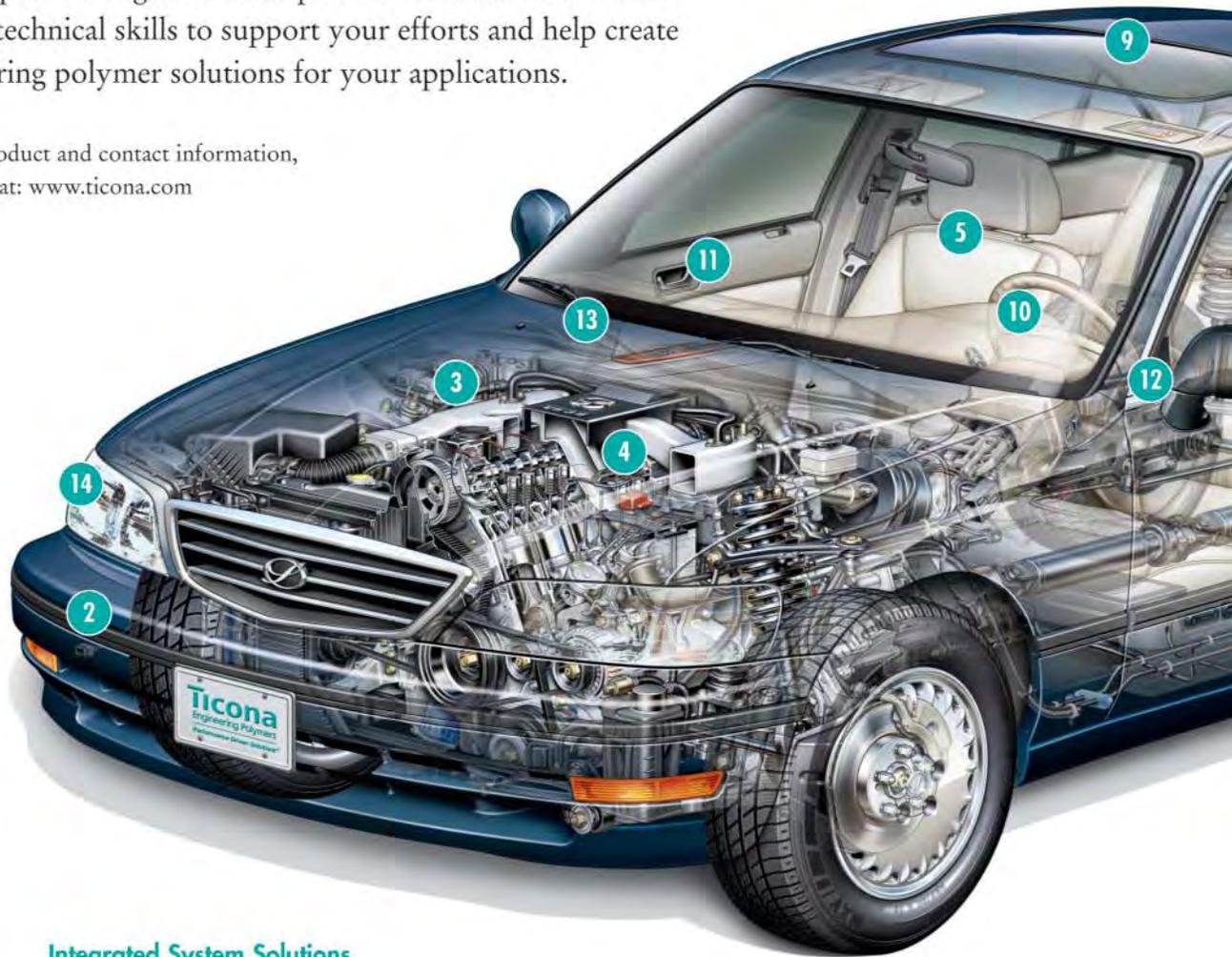
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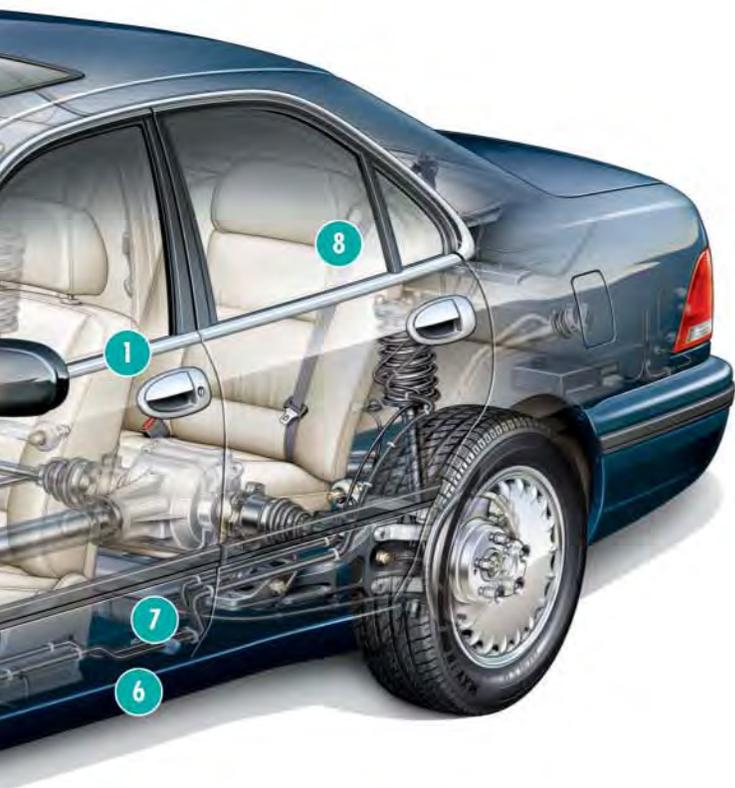
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# Polyurethane Structural Composites: An Innovative Process Using In-Mold Decorating Films for Exterior Vehicle Parts.

Paul Farkas, Romeo Stanciu, Liberato Mendoza, The Woodbridge Group, Chemical Research and Development

*Editors Note: This is an abbreviated version of a paper presented at the 2005 Automotive Composites Conference.*

This paper presents a novel fabrication technology of PU Composites applicable for vehicles.

The novel technology is based on an open mould pouring process that allows the usage of relatively low cost tooling, low tonnage presses as well as a high level of component integration and process automation for the production of performance products. The process eliminates the need of in-mold or post-painting of the finished part, by integrating in the composite structure a high performance film as a decorative exterior layer, which provides a high quality surface resistant to environmental factors.

The new process allows the fabrication of relatively thin, lightweight, structural composite with flexural modulus in the range known in other technologies as Polyurethane Structural Reaction Injection Moulding (PU-SRIM) and Sheet Moulding Compound (SMC), with Coefficient of Linear Thermal Expansion (CLTE) compatible with the In-Mould Decorating (IMD) films. The specific gravity of the part, dependent on composition, is lower than for similar strength products manufactured via PU-SRIM or SMC. End-product performance easily matches or exceeds the requirements of general transportation or other similar applications.

## **Background**

All current commercial composites offer a range of balanced product properties through a diversity of manufacturing technologies. However, independent of the fabrication method, the finished part needs a separate process step in order to achieve the optical surface quality required by the final application. Thus "surface painting" becomes part of the process, either at the time of moulding, like in In-Mould Coating (IMC), or at the finishing stage, as in "post-painting". An additional difficulty may be presented by parts that need a built-in structural reinforcement causing an optical degrading, "read through" effect.

The development work was oriented to extend the capability of WFC proprietary process. This novel process improves the product without negatively impacting our original process.

The technology is an open mould pour that produces thin, high Flexural Modulus PU composites characterized by:

- A substantially increased percentage weight of reinforcement.
- Compatibility with a large variety of reinforcing structures or fibers (polymeric/synthetic, natural or inorganic).
- In-mould, final optical quality, surface generation based on

pre-located sheets of Thermoplastic, Thermosets / Polyurethane Elastomers or Metal.

- Additional characteristics provided by the specific reinforcing agents.
- Potential for automotive class-A surface in a one-step moulding process.

The process is schematically presented in Figure 1.

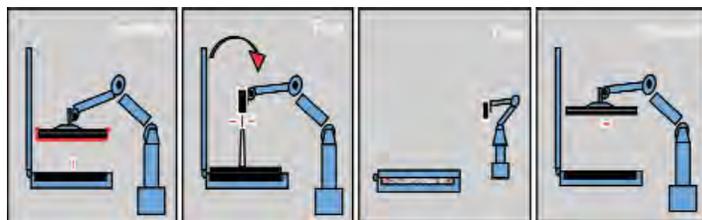


Figure: 1 Process Schematics

Several variations are possible, with the exterior skin being inserted (after thermoforming) or created inside the tool as an elastomer and/or in mould coating (IMC).



Figure: 2 Open Mould Pour

## **Materials Typically Used:**

Polymer Matrix - Rigid PU Foam

Reinforcement - Synthetic fibers, Natural fibers, Inorganic fibers (Glass, Metal, Mineral). Any combination of the above.

A large variety of reinforcement materials and constructions were evaluated. The evaluation was conducted using a flat plaque test tool fitted with different inserts for thickness variation. The reinforcement content was varied from 10% by wt. to 66% by wt. generating Flexural Modulus up to 10,000 MPa at Specific Gravity in the range of 0.25 to 1.45. Thermal stability was evaluated as CLTE and Heat Deflection Temperature (HDT). The CLTE can be adjusted over a wide range, from values similar or lower than SMC or

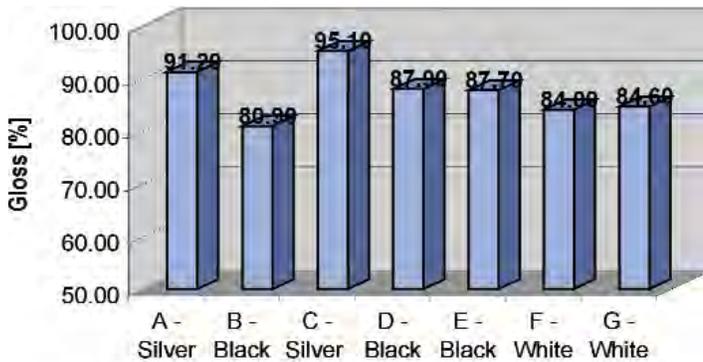
S-RIM (10-15 x10<sup>-6</sup> m/m°C) to values common for thermoplastic materials (50-80 x10<sup>-6</sup> m/m°C). HDT was measured in the range of 210-240°C.

Quality Surface can be achieved through: In Mold Coating - PU (IMC), PU Elastomer application, Thermoplastic sheets, Thermoset sheets, Metal foils, and IMD films.

The developed technology allows the incorporation of various materials to create the part exterior surface. IMD films were investigated in the current technology as an alternative to create high quality finished surfaces for automotive or non-automotive applications.

Preliminary experiments were conducted in the plaque tool to evaluate adhesion, mechanical properties and thermal/dimensional stability. In the next step, a tool with an appropriate finish was used to experiment with various IMD films and core constructions. Simple tool geometry allowed using the IMD film without prior thermoforming.

The surface quality was evaluated through gloss measurements using Gardner Micro-TRI-gloss meter at 60° angle. The initial gloss of various commercially available films used is presented in Figure 3. The films differed in type, backing, thickness and color.



**In-Mould Decorating Film**

Figure 3: In-Mould Decorating Films - Virgin Film Gloss Measurements

The IMD films have a multi-layer construction generally consisting of: a top clear layer, colored layer and a base layer. The chemical nature of each layer varies depending on supplier and application. The materials used in our experiments were on a PC or ABS base, the colored and top layer being PMMA or a fluoropolymer.

The films were used to produce finished parts in a proper tool, and then evaluated for surface quality visually and through gloss measurements. The parts were tested for change in surface quality during thermal cycling. Each cycle consisted of exposing the sample for 2 hrs. @ 85 ± 2°C, cooling down to room temperature for 2 hrs. followed by exposure to -20°C for 2 hrs. and recovery at room temperature for 2 hrs.

Gloss measurements were made using a Gardner Micro-TRI-gloss meter at a 60° angle, only after the sample had recovered at room temperature for 2 hrs. Results of the gloss measurements during thermal cycling are presented in Figure 4. No significant change in

*Continued Page 12*

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the gloss or the surface visual quality versus the virgin film was observed.

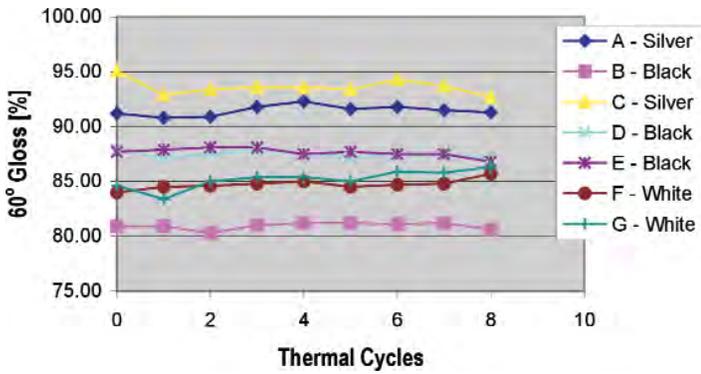


Figure 4: Moulded Parts with IMD/Paint Films



Figure 5: Moulded Part with In-Mould Decorating / Paint Film Finish



Figure 6: Moulded Part with In-Mould Decorating / Paint Film Finish

### Thermal Cycling - Gloss Measurements

At this stage no Long-Wave/ Short-Wave (LW/SW) measurements were done to completely characterize the DOI (Distinctiveness of Image). The work may continue and results will be presented under a separate cover.

Figures 5 and 6 shows some moulded parts with IMD / Paint film exterior surface.

### General Process Parameters:

- PU High Pressure Equipment,
- L - Type PU Mix-Head
- Throughput: 36 kg/min
- Mould Temp. - 65 deg C
- Mould material - steel with embedded heating lines
- Low to medium clamping force required
- Demould Time 5 - 6 min

### Process characteristics:

- Open mold pour
- One step process
- The polyurethane composition delivered to the mould in

one or several steps may be based on one or multiple PU systems that become mechanically and chemically bonded during the process

- Variety of reinforcement materials; large range of % wt reinforcement content
- Simple to complex core construction; the reinforcing core may be any of a large variety of adequate materials: synthetic, metal, glass, natural, or combinations thereof, in stratified or sandwich construction
- Manual or fully automated process

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- Running Boards
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- General Transportation
- Agricultural Equipment
- Recreational and Sport Vehicles

**Conclusions**

- A novel technology was developed, based on a fully open mould pouring process, using low cost tooling and carriers. Thus, the proprietary WFC Composite Process is extended to the manufacture of structural, thin cross-section composites while using a variety of reinforcing fibers (FG, polyamides, polyesters, metal, natural) imbedded in a PU matrix.
- This technology produces parts with properties that may prove them to be competitive to those manufactured through SRIM, SMC, Baypreg™ or other technologies,
- Different facing materials for enhanced surface and composite performance may be used: metal sheets, multi-layered plastic films or any natural surfacing materials.
- With specific films, class “A” optical surface quality is possible with heavily reinforced parts.
- By integrating in the composite structure a high performance film as a decorative exterior exposed layer, the process eliminates the need for in-mold or post-painting and provides a high quality surface resistant to environmental factors.
- The novel technology also allows for a high level of component integration and process automation in the production of performance products.
- The technology may be useful in the general mobility application areas.

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Bonnie Bennyhoff

## Awards Announcements

Congratulations are extended to the 2006 class of Honored Service Members and Fellows-of-the-Society! Honored Service Members are recognized for their service to SPE and the Automotive Division is proud to announce **Suzanne Cole**, Cole and Associates, Inc. and **Tom Pickett**, General Motors Corporation, are among only 247 inductees to receive this distinction since the award was established in 1992.

Fellows are recognized for their exemplary contributions to the plastics industry. Including this year's inductees, only 252 Fellows have been named since the award's inception in 1984 and the Automotive Division is proud to have **Dr. Rose Ann Ryntz**, Visteon Corporation, as a 2006 recipient. These individuals will be honored at the SPE Celebrates Banquet at ANTEC 2006 in Charlotte this May.

## Membership Dues Increase

Effective July 1, 2006, dues will increase \$3.00 to \$115.00. Dues for Student and Emeritus members will remain \$28.00. Initiation fees for new and returning members will remain \$10.00.

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Early-bird renewal notices were mailed in early March to members with a June 30, 2006, paid-through date. These members have until March 31, 2006, to take advantage of early-bird renewal savings. Two email reminders will be sent to this group to encourage them to renew by the deadline.

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## Below we welcome some of our newest members of the SPE Automotive Division:

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Laurent Beaudouin	Inter Action Consultant	Mike Harris	Honda of America Mfg Inc	Joel Schmidt	
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G Borgeson	Huron Technologies Inc	Eric Jaarda	GE Plastics	Sarah Staton	Tronox LLC
Tim Brown		Mary Jones	The Dow Chemical Company	Gary Stevenson	Advanced Elastomer Systems
Jim Callough	Kubota Research Associates	Celena Lippard	Channel Prime Alliance	Corley Strunk	Nova Chemicals
Troy Campbell	International Truck & Engine	Edward Luibrand	DaimlerChrysler Corporation	Vauhini Telikapalli	Dow Automotive
Benjamin Chan		Carol Malfroid	Ionbond	James Thomas	MPC
Chin-Jung Chen		Guillermo Marrufo	Mold Finish Co	Eric Thompson	
Keith Chesser	Mahle Filter Systems	Chris May	Albar Industries Inc	Scott Unger	
Dave Cowens	Delphi	Joseph Mayher		Nathan Vaikun	Brooks Sports Inc
Adam Czyk	Littlefuse Inc	Juergen Merz	Arcadia Textile Machinery Inc	David White	White and Associates
Daniel Dzedzic	General Motors R&D	Steve Michalik	Nova Chemicals	Larry Wilson	Federal Mogul Wiper Products
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Ryan Guest	Consolidated Metco Inc	Tony Napoletano	Hermes Specialty Plastics	Felix Zacarias	ExxonMobil
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Individuals or organizations interested in presenting at the conference should submit **Abstracts no later than April 28th** and **Papers no later than June 30th** to allow time for peer review. E-mail to [accepapers@comcast.net](mailto:accepapers@comcast.net). Approved papers will be distributed on a CD to conference attendees.

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