



Automotive Division Golf Outing

This year's Automotive Division Golf Outing will again be held at Fieldstone Golf Club, Auburn Hills, MI. The event will take place on Monday, August 6, 2007.

"The course is in excellent condition," states Mark Lapain, Assistant Chairman - Golf Outing. "Of course there will be awards and prizes. Also, this year's contest rules have been downsized to streamline play and increase enjoyment," according to Shane Ferguson, Assistant to Chairman, Golf Outing.

This year we are adding sponsorship opportunities for various contests and holes. The sponsorship packages include a foursome, outing recognition, and prize awards. Teri Chouinard, Sponsorship Chairperson - Golf Outing is co-ordinating this year's sponsorship program.

"The Auto Division golf outing has always been a "feel good" event. This year, we are going to make an even better 'feel good' event," states Fred Deans, Golf Outing Chairman.

Registration & Sponsorship Contacts:

Teri Chouinard, Sponsorship
Tel: 248-244-8993; email: teri@intuitgroup.com
Fred Deans, Golf Outing Czar;
Tel: 248-760-7717, email: Frederick.deans@ge.com

The registration form is located on page 12 of this newsletter. See you August 6. Fore!

Automotive Division Announces Executive Award Winners

- ◆ Josh Madden, SPE Director Emeritus
- ◆ James E. Queen, group vice-president for Global Engineering at General Motors (GM)
- ◆ Lawrence Burns, vice-president, Research & Development and Strategic Planning at GM

See page 10 of this newsletter for additional information.



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Treasurer's Report

John Fialka

The financials are in good standing at \$81K with \$55K in checking and \$26K in savings. Sponsorship proceeds for the 2007 ACCE have begun to be paid. The Automotive Division News letter generated net proceeds of \$5,000 in 2006 from advertising income of \$30K and total expenses of \$25K. Planning for the 2007 Automotive Awards Event is ongoing. Marketing and Communication expenses have been incurred and sponsorship solicitation is underway.

Your company can help sponsor our newsletter!!!

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Automotive Division Meeting Schedule and Special-Events Calendar

Automotive Division Golf Outing Fieldstone Golf Club Auburn Hills, MI	August 6, 2007
7 th -Annual SPE Automotive Composites Conference MSU Management Education Center, Troy, MI	September 11-13, 2007
SPE Automotive TPO Conference Best Western Sterling Inn Sterling Heights, MI	October 8-10, 2007
37 th -Annual Innovation Awards Gala Burton Manor, Livonia, MI	November 7, 2007

Note: 2007/2008 Automotive Division Board of Directors meeting schedule will be set at the June Planning meeting, and will be printed in the next newsletter.

Automotive Division Board of Directors meetings are open to all SPE members. Call Brian Grosser at (248) 941-9368 for more information.



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Chairman's Message

Brian Grosser

The return of Spring and the warm weather indicates that school is out and the SPE Automotive Division is starting a new year. Our Board of Directors will meet in a few short weeks to fill key leadership positions and set our strategy and goals for the upcoming year. I will fill you all in on the outcome from that meeting in the next letter.

The 2006-2007 year for SPE Automotive was a good one as we continued our education programs at schools and other functions. These activities are of course funded by our highly successful Innovations Awards Gala, Composites Conference, AutoEPCON conference, and other various events. The activities are made possible by the volunteer efforts of our board members and others active in our society. This year, we will continue to make each of these events better as we strive to be the best we can be.

Our main goals will be similar to last year, namely:

Continued improvement of the Automotive Division's main events: The Innovation Awards, the Automotive Composites Conference and the Engineering Plastics Conference (AutoEPCON). The focus will be on increasing sponsorship, improving programming and documentation of best practices to help maintain our current momentum.

Expanding the Automotive Division's educational outreach programs. We plan on leveraging the monetary success we have had with our conferences and the Innovation Awards to supplement this key area. Activities will include programs with local schools and other education activities.

Increase membership within the Automotive Division. With the hardships experienced by the automotive industry in recent years, membership has been on the decline. Our goal is to reverse this trend and increase membership levels through innovative programs and by leveraging the board's extensive network of contacts.

Recruit new participants for the Automotive Division board and our various activities, with an emphasis on people from companies not currently represented.

I would like to thank Mark Lapain for his outstanding effort as last year's Automotive Division chairman. We are a division of SPE in excellent working order, a large part of which can be attributed to Mark's efforts. I look forward to serving as this year's Automotive Division chairman and working with many of my fellow division members. I am confident we can maintain the positive momentum we have established within our society and deliver even greater results for our members in this upcoming year.



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AUTO EPCON

Automotive Engineering Plastics Conference

The SPE Detroit Section and the SPE Automotive Division joined together to hold the second annual Automotive Engineering Plastics conference, AutoEPCON 2007, on April 24th at the Best Western Sterling Inn in Sterling Heights, Michigan. Over 230 attendees learned the latest developments and design of engineering plastics materials for automotive applications from 20 presentations, 14 exhibitors, a plenary speaker, a keynote speaker and a panel of industry experts.

In the opening remarks, Tom Pickett, Co-chair of the conference, welcomed the attendees and remarked that his co-chair Nippani Rao and he were thankful to all the SPE volunteers and sponsor companies that made the conference possible. The SPE volunteers were Norm Kakarala, Technical Chair; Ron Price, Sponsorship & Exhibit Chair; Terry Cressy, Management Forum Chair; Craig Bellissimo, House Chair; and Pat Levine, Program Brochure Chair. The volunteers that served on the different committees were: Craig Dlugos, Maria Ciliberti, Mark Lapain, Mike Hickman, Suresh Shah, Jay Raison, Sandra McClelland, Josh Madden, Tom Miller, Jim Kolb, Teri Chouinard, Ed Garnham, and Cindy Job.

The financial support and active participation from the four premier sponsors and the eight associate sponsors made the conference possible. The premier sponsors were: **BASF Engineering Plastics, DuPont Automotive, Nova Chemicals, and Ticona Engineering Polymers.** The associate sponsors acknowledge were **Adell Plastics, Asahi Kasei Plastics North America, A. Schulman, Chevron Phillips Chemical Company, Flood Cooling (FAST4m), JSP International, JYCO Sealing Technologies, and Solutia.**

In addition, the exhibit /advertising / break sponsors were: **Bulk Molding Compounds, ENTEC Polymers, INCOE, Moldflow, RTP Polymers, and SherTrack.**

Terry Cressy of DuPont introduced conference plenary speaker Mike Jackson, VP North American Vehicle Forecasts from CSM. Mike talked on the trends affecting North American vehicle production. Mike pointed out that the US market will grow in cars. There will be a shift away from the truck sector to the gas efficient vehicles which will increase in global volume. Small car vehicle sector such as the Chevy Aveo will grow worldwide. China, India, Thailand, and Eastern Europe markets will see the biggest growth.

Norm Kakarala of Delphi informed the attendees of the 20 technical presentations in two concurrent sessions. There were 10 presentations in the Material session that covered a variety of engineering plastic materials. There were also 10 presentations in the Design & Application Development session on a variety of under the hood, structural, interior and exterior automotive applications.

Terry Cressy introduced the keynote speaker Mark Verbrugge, Director of GM R&D. Mark discussed the benefits of vehicle light weighting and the role of polymer composites. Mark remarked that mass reduction offers enhanced performance, improved fuel economy, and reduced emissions. Mark pointed out that \$ / LB saved = \$ / gallon of gas. For example, if in a hood application you replace the current material (steel) with a premium material (composite) and save 10 pounds per part, the value of the mass savings is equivalent to \$30 per part based on \$3.00 per gallon gasoline price. He discussed the role of carbon fiber in the automotive business. He pointed out its benefits and also its challenges.

Ron Price moderated a panel of OEM executives. The panel included Dave Mattis, General Motors, Jeffrey Helms, Ford, Susan Yester, Daimler Chrysler, and Kenichi Yasanuga, Toyota. Ron asked the panel a number of questions related to materials and the future role of engineering plastics in the vehicle and the challenges.



Above: Tom Pickett and Norm Kakarala.
Right: Members of the AutoEPCON committee.





Susan Yester commented on the process to select the right material for the right needs. Susan said at Daimler Chrysler lower mass and cost are factors in the material selection.

On challenges of new technology, Dave Mattis sees challenges to implementing new technology and how to achieve the right balance so it is a win / win / win for each of the tier suppliers and the OEM. Unfortunately, the tier one often gets squeezed between the demands of OEM and material suppliers. In regards to material development, Jeffrey Helms sees the need for a thermoplastic material that offers the similar properties of SMC. On material selection, Kenichi Yasanuga remarked that Toyota does not just have one material, but looks at several materials including steel and plastics. They look at the balance of properties and cost. Jeffrey Helms mentioned that nylons and long glass fiber polypropylene see a lot of use. He sees engineering plastics in under the hood applications. Susan Yester commented that seat frames and door swings are applications for engineering plastics. The panel agreed that the greatest opportunity for structural applications is under the hood and front end.

In response to the question on how to best get information on new materials to OEMs, Dave Mattis commented that bringing in parts to GM and discussing it. Dave suggested bring the information into the OEM to discuss the benefits. Susan Yester added the personal relationship is a good way to get information. Jeffrey Helms recommended the material suppliers going through the Ford materials engineer. Kenichi Yasanuga added that Toyota would welcome new information.

Following the panel discussion, the technical presentations resumed. The conference concluded with a networking reception. SPE looks forward to having the third annual AutoEPCON conference next April.

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Education Chair Report

Monica Prokopyshen

Funding for education programs comes from the support of members, sponsors and participants of our conferences and Innovations Award Program.

This fiscal year, the automotive division again sponsored the Plastivan®, participated in Explorathon®, and expanded the student program for the Innovations Award program. In addition, a limited number of scholarships are awarded through our conference programs.

New for 2007 As a new service, the SPE AD has added technical papers and guides from past conferences to our web site. Visit the Resource Center section of our web site to read 2002-2006 Automotive Composite Conference & Exhibition (ACCE) papers and guides.

The ever popular and much requested Plastivan is an education program managed by the National Plastics Center and Museum, which brings a polymer chemistry laboratory and hands-on lessons directly to schools and students in grades 3 through 12. The SPE AD sponsors a number of these visits to schools in Southeast Michigan each year.

Explorathon is an annual event open to high school students in Southeast Michigan designed to spur interest in careers in math, sciences and engineering. The SPE AD has participated in this event for the past six years, offering hands-on polymer chemistry sessions, during the daylong event. The average student satisfaction rating was 92%. Here are some student comments from this year's event:

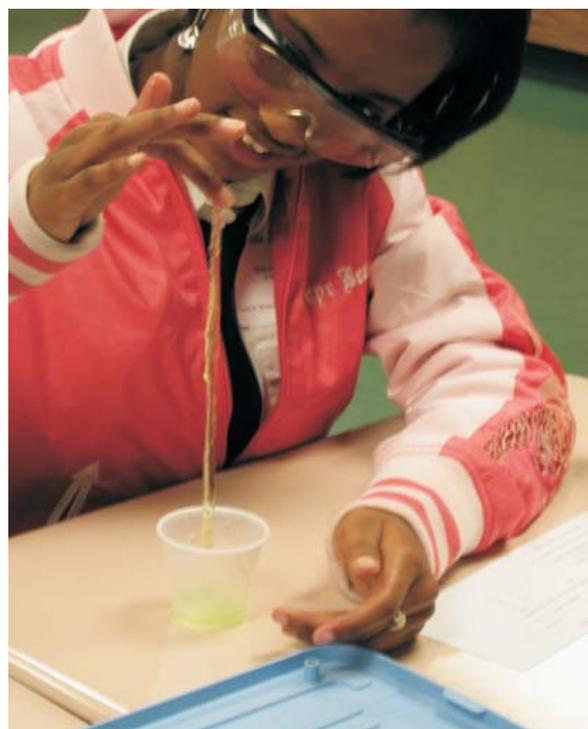
It was awesome! I think it was perfect.

I like everything no need to change.

I loved seeing how plastic is used in our everyday lives.

I loved learning about plastics in different forms. It was a lot of fun!

If you are interested in volunteering or supporting any of these education activities, signing up for a Plastivan visit, or wish to find out more information, please contact us as via the automotive division web site: www.speautomotive.com



SPE Automotive Composites Conference Coming Together Quickly

Theme Highlights Composites' Roles in Driving Performance and Productivity

Since last October, the ACCE planning committee has been hard at work on the 2007 SPE Automotive Composites Conference, which this year will be held from September 11-13 at the MSU Management Education Center in Troy, Mich., a suburb of Detroit. Now in its 7th year, this SPE technical conference and exhibition is considered to be the world's leading automotive composites forum. It regularly draws exhibitors, speakers, and attendees from Europe, the Middle East, and Asia / Pacific as well as North America.

Access Content from Previous ACCE Conferences on Automotive Division Website 24/7 at No Cost

Papers and presentations as well as program guides from five of the first six years of the SPE ACCE conference are now available for viewing and downloading on the SPE Automotive Division's website at www.speautomotive.com/comp.htm. This large body of technical material is offered online 24/7 at no cost in order to benefit OEM engineers, tier suppliers, material suppliers, industry consultants, university students studying composites technologies, and members of the media.

The papers and presentations cover such materials technologies as long-fiber reinforced thermoplastics (LFRT), glass-mat thermoplastic (GMT), natural-fiber composites, bio-composites (using non-petroleum feedstock), nanocomposites, sheet-molding compound (SMC), and advanced carbon-fiber composites. Topics covered include novel fabrication technologies, finishing, paint films, design and testing of composites, structural applications, and new uses for composites in ground-



*Thanks to the support of sponsors like **Ticona Engineering Polymers** -- the 2007 Platinum Sponsor of all three Automotive Division events -- ACCE show organizers have been able to keep admission fees for the conference at the same rate while significantly expanding services and programming. (Photo courtesy of Pam & Mike Brady)*



transportation applications. The papers have been submitted by representatives from transportation OEMs, tier suppliers, materials and additive / reinforcement suppliers, machinery OEMs, government / academic labs, media, and consultants from around the world. Content has been posted from the 2002-2006 conferences. SPE previously sold copies of ACCE conference CDs for \$100 USD per CD per year.

Applications Being Reviewed for New ACCE Scholarships

The ACCE planning team is reviewing scholarship applications from graduate schools around the world for the first-ever SPE ACCE Scholarships. This year's scholarships were funded from proceeds from the 2006 ACCE conference, and are being given in honor of the late journalist and composites-industry insider, Steve Loud, who was a long-time supporter of the conference and of SPE.

Two awards in the amount of \$2,000 USD each will be given for graduate research in some aspect of composites that will have impact on ground-transportation applications. Deadline for receipt of application forms was the end of June. The winning students, projects, and schools will be announced at the end of July. Check back to the www.speautomotive.com/comp.htm page for names of the winning students, schools, and projects. The students will present their work at the 2008 SPE ACCE event.

2007 Technical Program May Tie or Break Previous Record for Most Presentations Given at the Conference

Almost 60 paper offers have already been accepted and more offers are expected within the next few weeks, so this year's ACCE technical program is looking as robust as that in 2006, when the event broke records for most presentations ever (60). Peer review is already underway for both papers and presentations. Reviewers report being

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ACCE 2007

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favorably impressed with the diversity of topics and the significance of some of the work.

Sessions currently planned for this year's event include: Advances in Thermoset Composites; Advances in Thermoplastic Composites; Bio- & Natural Fiber Composite; Bonding, Joining, & Finishing of Composites; Enabling Technologies; Nanocomposites; New Composite Materials & Processing; Structural Composite Applications, and Virtual Prototyping & Testing of Composites.

Awards to be Given for Best Papers for First Time at Show

This year, reviewers will not only be checking technical content and watching for excessive commercialism when they review manuscripts for the conference, but will also be helping select three papers that merit the conference's first Best Paper Awards. The awards will be presented at the 2007 conference in a special ceremony. One award each will be given in the categories of New Materials; New Processing / Enabling Technologies; and New Composite Applications. Winning authors will be notified in August and will receive a special plaque and peer recognition early in the 2007 conference program.

Panel Discussions, Keynote Addresses also Look Strong

In addition, conference planners are also working on this year's panel discussions, which tend to be among the most lively and well-attended sessions at the conference each year. A new session on Marketing the Value of Composites will be moderated by Judy Ray Hazen, the publisher of Composites Technology and High-Performance Composites magazines. The Automotive Composites

Association (ACA), which is part of the American Composites Manufacturers Association (ACMA), is busy organizing a panel discussion on The Future of Thermoset Composites. Another popular aspect of the conference is the keynote speaker program. This year, the planning committee has commitments from the following speakers / organizations on topics that should be of interest to most attendees:

- ◆ Victor Liu, Azdel, Inc. - Composites in China;
- ◆ Rob Babinsky, Townsend Polymer Services & Information - Current & Future Market for Long-Fiber Reinforced Thermoplastics (LFRT);
- ◆ Chuck Segal, OMNIA LLC - Is the Carbon Fiber Industry Ready for the Automotive Market & is the Automotive Market Ready for the Carbon-Fiber Industry?;
- ◆ Dr. Mike Fisher, American Chemistry Council - Plastics are for Cars After All - The Rest of the Story (a reprise of his well-received keynote from last year); and
- ◆ Robert Kisch, Boeing Commercial Airplanes - Composites Application, Processing, & Innovation at Boeing.



As in 2006, the Automotive Composites Alliance (ACA) is gearing up to showcase the benefits of thermoset composites for the automotive industry. There will be exhibits by ACA members, a special large-part display featuring numerous SMC parts. ACA will also sponsor one of the 2007 ACCE show's cocktail receptions. (Photo courtesy of Pam & Mike Brady)

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ACCE 2007

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Sponsorship is Solid; No Exhibit Spaces Left

Despite the difficult time the North American automotive industry is experiencing, sponsorship has remained solid for this year's ACCE show. (See Sidebar for current list of sponsors and exhibitors.) In fact, there are no exhibition spots left at the conference. This year, all exhibits have been moved to the ballroom, so will reside in a single location.

According to Teri Chouinard of Intuit Group, ACCE Sponsorship co-chair, "This year, we decided to move exhibits from various conference rooms to the ballroom to give sponsors more value. This brings exhibitors and attendees together in a single, centralized location so all displays get more traffic. It not only provides more of a "trade show" feel; but is a more convenient location for food and beverages during breakfasts, coffee breaks, and cocktail receptions." Lunch will be offered in the conference rooms previously used for exhibits.

Time to Register to Attend; SPE Members Save \$100 at the ACCE

The planning committee encourages anyone planning to attend the event to register early. The registration form can be found at www.speautomotive.com/comp.htm. Getting a good attendance count early helps show organizers with meal planning so we neither over- nor under-order food and beverages. It also helps us gauge how many registration packets to produce for the show, which in turn impacts the number of packets we request from our commercial and media sponsors about their products and services. Attendance fees have not increased since 2005, when the conference went from 2 to 3 days. The cost is still \$349 USD for SPE members and \$449 for non-SPE members or for renewing SPE members. The \$449 fee includes 1 year of membership in SPE, so many active members choose to renew at the conference to save \$18 on their membership fees.

Check Automotive Division Website for Updates Often

The SPE Automotive Division website (www.speautomotive.com/comp.htm) is a good place to find forms, press releases, papers or presentations from prior years' conferences, as well as updates on the current year's program schedule, so please check back often. Starting in mid-July, a tentative program schedule with paper and author listings will begin to be posted - too late to make this newsletter, but early enough to help attendees decide which tracks to attend each day.

As the last few keynote address slots are filled and as we determine the final composition of our panel discussions, that information also will be posted on the website.

2007 SPE ACCE Sponsors & Exhibitors

(as of June 15)

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Executive Award Winners Announced for 37th-Annual Automotive Innovation Awards Gala

Date, Location, Schedule Set for this Year's Innovation Awards Gala

For more than 3-1/2 decades, the Automotive Division has honored the "Most Innovative Use of Plastics" in automotive applications through its annual SPE Automotive Innovation Awards Competition. Winners are announced at the Automotive Innovation Awards Gala, an annual event that draws 600-800 OEM engineers, automotive- and plastics-industry executives, and media. This glittering evening of celebration honors innovation and the hardworking teams that bring it to market. Unofficially called the "Academy Awards" of the plastics and automotive industries, the event 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 gala will be held Wednesday, November 7, 2007 at Burton Manor in Livonia (Detroit), Mich. After the 2007 Executive Award winners are presented to the media during a short press conference, the gala will officially begin at 4:30 p.m. with the VIP Cocktail Reception, generously sponsored by Ticona Engineering Polymers. During the reception, the Executive Award winners will be fêted by their peers, media,



and major sponsors. At 5:30 p.m. the main exhibit area will open for general admission and guests can review this year's Innovation Awards part nominations, as well as enjoy the specialty and antique vehicles that are always a highlight of the show. Dinner will begin at 6:30 p.m. and the program itself will last from 7:00-9:00 p.m. For those who wish to extend merry making and networking activities, the ever-popular Afterglow - also sponsored by Ticona Engineering Polymers this year - will run from 9:00-11:00 p.m.

Executive Award Winners Announced for this Year's Competition

After months of reviewing candidate credentials and cross-checking schedules, the hardworking Executive Award

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search committee has selected the three winners of this year's prestigious awards for executive leadership in automotive plastics. The winners were jointly announced by SPE Automotive Division chair, and returning Innovation Awards chair, Brian Grosser, and by immediate-past Innovation Awards chair and former Automotive Division chair, Suzanne Cole. Details about each winner are given below.

SPE's Own Josh Madden Wins Lifetime Achievement Award



Josh Madden, SPE Director Emeritus and long-time Automotive Division board member, will be the 2007 recipient of the SPE Lifetime Achievement Award, which recognizes the technical achievements of automotive industry executives whose work (in research, design, and engineering) has led to significant integration of polymeric materials in vehicles.

Madden, whose list of automotive plastics innovations is legendary, ironically began his career as a metallurgist. He joined General Motors Corp. (GM) in 1954 in the Pontiac Motor Division working in Product Engineering. He was a senior experimental metallurgist, moving on to become a rubber & plastics engineer, and then holding a position as staff materials engineer.

After 23 years at GM, Madden was recruited to join Volkswagen (VW) of America, in the role of executive engineer. There, he was responsible for setting materials engineering specifications, overseeing product translations, running production engineering, and liaising with VW headquarters in Germany. His responsibilities were expanded when he became chief engineer - Product Engineering. In 1984, VW made a decision to close its U.S. manufacturing operations in order to pursue the goal of becoming Europe's largest automaker. Madden was retained as an active engineering consultant to the VW Vice-President of Engineering, and also acted as VW's technical representative in Detroit.

In recent years, he has put his expertise to use as a materials and processing consultant to industry. He has also appeared as a guest lecturer at Wayne State University, Akron University, University of Wisconsin, Yale University, Purdue University, Lawrence Technological University, Oakland University, and the College for Creative Studies.

Throughout his career, Madden has been a member of and often held leadership roles in a broad range of technical committees, engineering societies and professional organizations at GM, VW, SPE, the Society of Automotive Engineers (SAE), the American Society of Materials, the

2007 Program Sponsor

The SPE Automotive Division is pleased to announce that Ticona Engineering Polymers will be the Program Sponsor of the 2007 Innovation Awards Gala and Competition.



Detroit Rubber Group, Engineering Society of Detroit, Verein Deutscher Ingenieure (VDI, the German Society of Engineers), and the American Iron & Steel Institute (AISI). He also presented papers at numerous technical conferences and was invited to a government-sponsored event in Africa on automotive components.

Originally from Drifton, Pa., Madden attended Mullenberg College as well as the Mining & Mechanical Institute. He has taken graduate-level courses at Wayne State University, University of Michigan, GMI Institute (now Kettering University), and Mercy College. He achieved the rank of 1st lieutenant in the Army. He was a Kiwanis member for 25 years. And he was Operations chair at the Meadow Brook Concours d'Elegance in Detroit for 23 years. His hobbies are photography and fly fishing. He is also a member of the vestry of his church.

James Queen of General Motors to Receive Executive Leadership Award



James E. Queen, group vice-president for Global Engineering at General Motors Corp. (GM) has been named the 2007 recipient of the prestigious Executive Leadership Award.

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 are recognized - both within their industry as well as in their community - as leaders. The honoree will also 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. Only three previous executives have received this award. These include: James Padilla, chief-operating

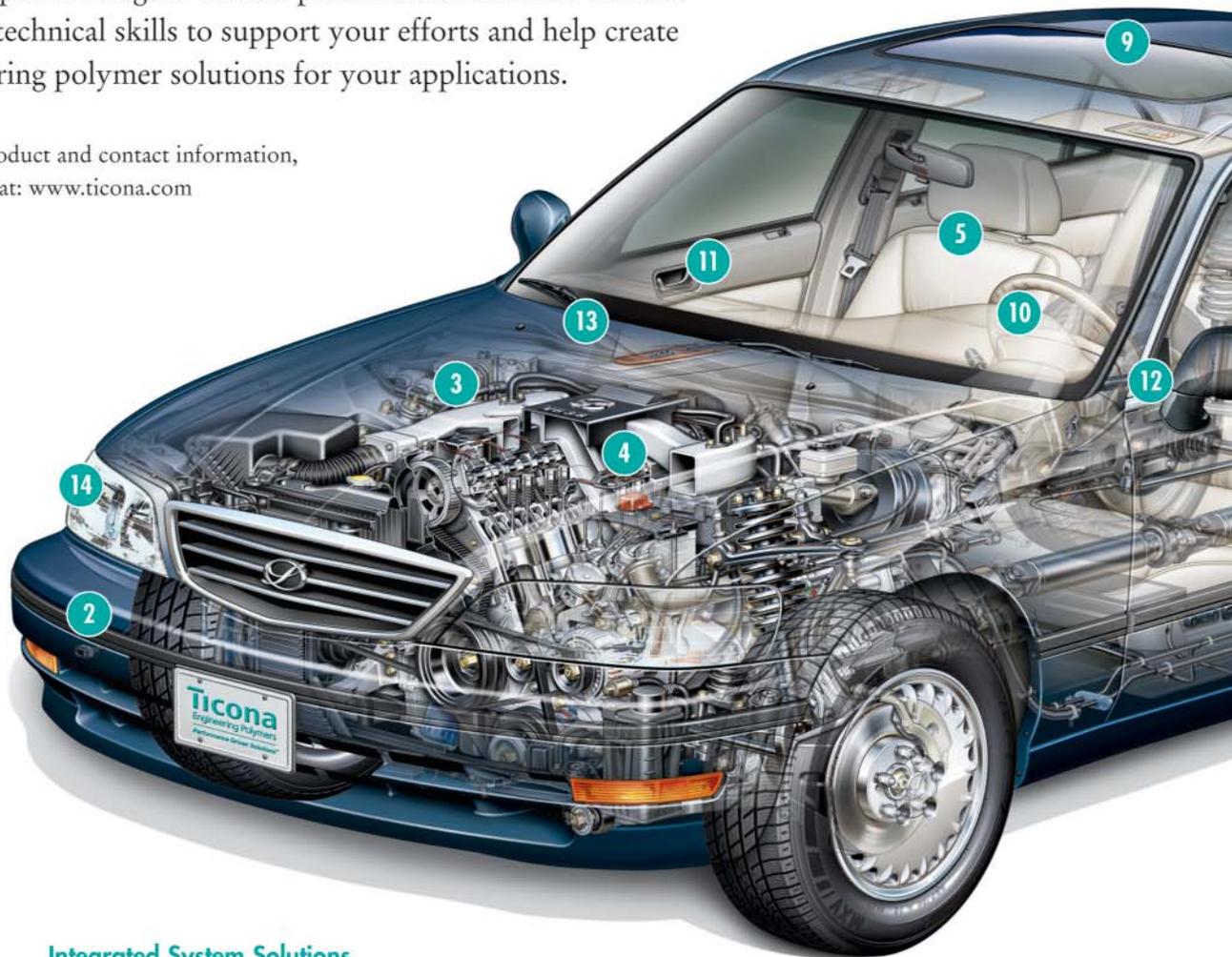
Continued Page 14

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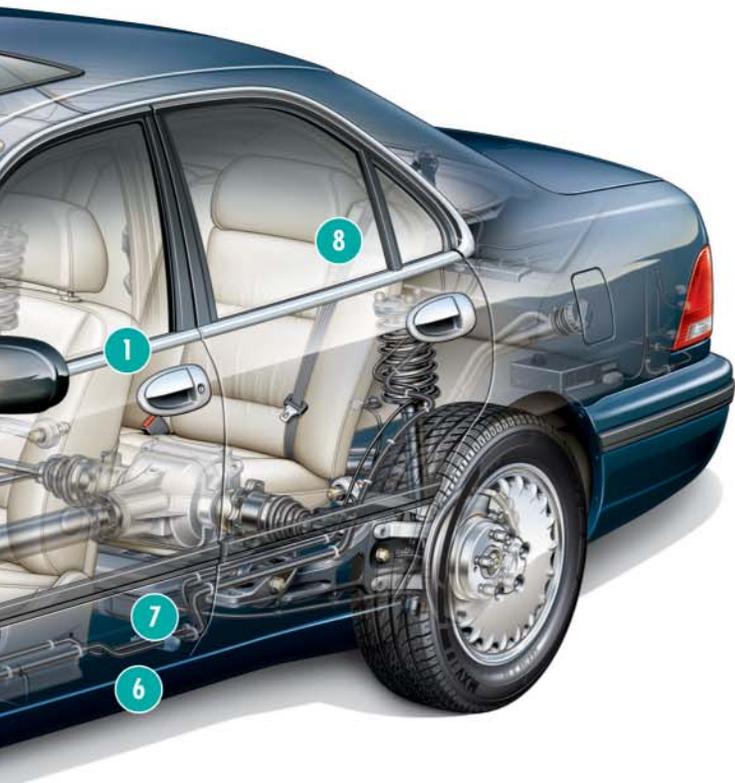
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Executive Award Winners Announced

Continued from Page 11

officer and president, Global Automotive Operations, Ford Motor Company; Tom Edson, director, Applied Material and Manufacturing Technology, Advanced Vehicle Engineering, at Daimler Chrysler; and James. A. McCaslin, president and chief-operating officer at Harley-Davidson Motor Company.

"Jim Queen was selected as this year's recipient because he is the quintessential automotive leader," explains Brian Grosser returning SPE Automotive Innovation Awards program chair and SPE Automotive Division chair-elect. "As an executive engineer, he has identified opportunities for platform-sharing and lightweighting vehicles targeted for global markets. Throughout his career, Jim has shown leadership on value creation and innovation. For example, he championed the successful introduction of the Cadillac CTS performance luxury sedan and now is the production advocate for the Chevrolet Volt electric vehicle with a target launch of 2010. Jim believes that in order to build efficient, profitable global architectures, the engineering organization has to be seamlessly aligned."

When asked what typifies global success, Queen explained that "The actual goal is to use a standardized process, follow best practices, eliminate redundancies, increase throughput, and leverage the scale that arises from producing many variants off a common architecture around the globe. To do all this, however, required a realignment of GM's engineering resources. We started down the road to a standardized global engineering structure in 1997. In North America alone this has allowed us to reduce the cost of doing engineering work here 40% and increased our throughput 33%."

Queen has held the title of group vice president of Global Engineering at GM since April 1, 2007. He also continues to lead GM's Vehicle Engineering Operations worldwide, a position he assumed responsibilities for in March 2005. Queen has held the position of vice-president, GM North America Engineering since July 2001. Prior to this, Queen held numerous positions at GM, including Vice-President, Vehicle Systems (2001); Vice-President and Group Director, Engineering - GM North America Car Group (1999); Group Director, Engineering - GM Small Car Group (1997); and Engineering Director, North American Operations Chassis/Electrical/Interior Engineering Activities at GM's Technical Center in Warren, Mich. (1995).

Queen began his career with General Motors in 1977 as a salaried employee-in-training with the Buick Motor Division in Flint, Mich. Prior to joining GM, he served with the U.S. Marine Corps from 1971-1977.

Born in Zanesville, Ohio in 1949, Queen earned a Bachelor's Degree in Aeronautical & Aerospace Engineering from the U.S. Naval Academy (1971) and also has participated in the Amos Tuck Executive Development Program at Dartmouth College in 1990.



GM's Lawrence Burns Selected for Global Executive Engineering Leadership Award



Lawrence (Larry) Burns, vice-president, Research & Development and Strategic Planning at General Motors Corp. (GM) is the 2007 recipient of the SPE® Automotive Division's Global Executive Engineering Leadership Award.

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" within the global transportation industry. Candidates are evaluated 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. This is the newest honor in SPE's lineup of executive leadership awards and it was first given last year to Chris P. Theodore, vice-chairman of American Specialty Cars (ASC).

There were a number of reasons Burns was selected as this year's recipient. In his current role as vice president of General Motors Research & Development and Strategic Planning, Burns oversees GM's advanced technology, innovation programs, and corporate strategy. He is a member of GM's Automotive Strategy Board and Automotive Product Board. In addition to driving innovation in today's vehicles, Burns also champions GM's "reinvention" of the automobile around technologies such as advanced propulsion, electronics, telematics, and materials technologies. According to GM, the goal of this initiative is to "realize sustainable mobility with vehicles that are also aspirational and affordable." A key example is the introduction of the Volt plug-in-electric concept car at the 2007 Detroit Auto Show in January and the recent announcement by Burns that the Volt has been moved up to production engineering and assigned to the next-generation Delta platform.

Burns began his career at GM in 1969 as a member of the Research & Development staff, where his work focused on transportation, logistics, and production systems. He

subsequently held executive positions in several GM divisions in the areas of product program management, quality, production control, industrial engineering, and product and business planning. In May 1998, he was named as a vice president of General Motors with responsibility for R&D and Planning.

Also, Burns is very active outside his direct work at GM. He is a member of the USCAR Operating Council and the FreedomCAR Partnership Executive Steering Committee. He serves on the University of Michigan's Automotive Research Center board and recently completed a 6-year term on its College of Engineering National Advisory Council. Additionally, he is a member of the Advisory Council for the University of California Berkeley's Institute of Transportation Studies and a member of the Board of Trustees of the Midwest Research Institute. Burns also sits on the board of the University of Michigan Center for Hearing Disorders and is a member of the National Advisory Group for the National Technical Institute for the Deaf at Rochester Institute of Technology.

In 2000, Burns received Kettering University's Engineering Alumni Achievement Award for his contributions to the engineering profession. In 2002, the Deafness Research Foundation recognized him with its National Campaign for Hearing Health Leadership Award. In 2005, he was a member of a General Motors team awarded the Franz Edelman Award from the Institute for Operations Research and the Management Sciences. Burns is also the recipient of the 2005 Alumni Merit Award from the University of Michigan Industrial and Operations Engineering Department. He recently completed a 2-year term as National Honorary Chairman for the MATHCOUNTS Foundation.

Burns holds a Ph.D. in Civil Engineering from the University of California at Berkeley. He also has a Master's Degree in Engineering/Public Policy from the University of Michigan, and a Bachelor's Degree in Mechanical Engineering from the former General Motors Institute (GMI), which is now called Kettering University.



Mike Dolman of DaimlerChrysler accepts the 2006 Grand Award for "The Most Innovative Use of Plastics" from Brian Grosser, SPE Innovation Awards Program Chairman. The winning application was the Blow-Molded Front and Rear Bumper System on the '07 Model Year Chrysler Group Jeep® Wrangler SUV.



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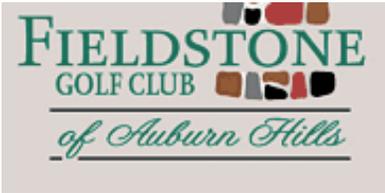
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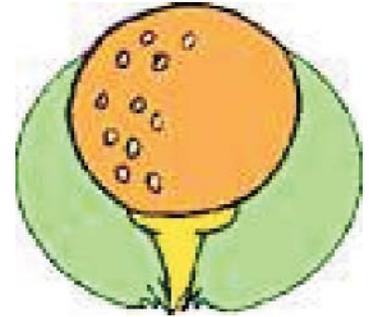
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Councilor's Corner

Nippani Rao

Attended the Council and Division's meeting in Cincinnati (ANTEC), May 5-6, 2007 and the following summarizes the highlights.

Division's Meeting

- Nippani Rao, Automotive Division Councilor was offered the Divisions Committee Chair for 2007-2008 by Vicki Flaris, the Incoming President of SPE and Nippani accepted the position. Bill Arendt, current chair conducted the meeting.

- Two new SIGs (Special Interest Groups), Extrusion Europe and Composites Europe were approved. 3 additional SIGS, Plastics and composites in the building and construction industry, Nano materials technology and Bioplastics are being considered

- Continue to work on updating speaker's list and the sub committee is looking into additional sources to update and advertise the list.

- Continue to work on developing "Mini-tech criteria" for a 1 day conference, so all divisions can use.

Council 1 (outgoing) and Council 2 (Incoming) Meetings

- Over 3500 attending the ANTEC. Appears very successful partnering with Plastics News. Partnering is extended for next year at Milwaukee.

- Stressed the need for International growth. US membership has leveled off about 20,000. Europe, Latin America, India and China are the next areas of growth. International committee is working on this opportunity.

- Executive Director Susan Oderwald provided an overview of her perspective of the key points required for a successful SPE in the future. Increased Revenue, Member Value, Excellence in Staff and Excellence in operations.

- Treasurer John Szymankiewicz provided an update summarizing the 2006 year end audit as well as results so far for 2007. Income for 2007 is behind expectation. Plastics Engineering is losing money and a committee will review the situation in June.

- Gail Bristol reported on the SPE Foundation. This year \$95,000 will be distributed for scholarships.

- Tom Conklin updated the Council on the progress in the development of the Online Plastics Encyclopedia. A new value added membership benefit.

- Tobi Gebauer presented the results of a membership marketing survey which was emailed to all SPE members

with email addresses (17,278) and 3,871 responded. The purpose of the survey was to better understand what member's value, how they see SPE, and where the society is going. The information will be used to improve the services, benefits etc. The report is on the extranet. Members ranked the on-line technical library, website, plastics engineering and article downloads are the top ranked benefits to belonging to SPE.

- Incoming President Vicki Flaris's SPE mantra is "No Borders". Vicki presented the new executive committee, treasurer, secretary, various VPs, Divisions and Sections committee chairs. Her key message is "No Borders" International policy. The full text of her message is available on the SPE Councilor intranet site.

Council as a Whole

- Discussed various issues such as governance of SPE, regional issues, 2 versus 3 council meetings/yr etc.

Miscellaneous

- Various committee reports, Awards and recognitions and contributions and donations. Nippani Rao, automotive division councilor presented a check for \$2,500 to support the annual award for Education.

- Detailed information on most of the topics is on the website, for those interested.

Next Council Meeting

- September 29, 2007 in Irvine, California

Call for Nominations

The Automotive Division is currently accepting part, component, and module nominations for "The Most Innovative Use of Plastics" of 2007, in the following categories:

- ◆ Body Exterior
- ◆ Body Interior
- ◆ Chassis / Hardware
- ◆ Environmental
- ◆ Hall of Fame
- ◆ Materials
- ◆ Performance & Customization (Automotive Aftermarket)
- ◆ Powertrain
- ◆ Process / Assembly / Enabling Technologies, and
- ◆ Safety

The Nomination Form is available on the division's website at www.speautomotive.com/inno.htm and must be received by September 16, 2007.

Lasermarkable Engineering Resins

Bruce M. Mulholland

Global Color Technology Manager
Ticona Engineering Polymers

Introduction

Over a quarter century ago, lasers were thought of as "tools of destruction." From cutting through steel to use as weapons, lasers were powerful devices and thought to only be used that way. Of course today's lasers carry a much tamer connotation and a much broader usage basis that is ever growing. With the technological refinement that has occurred, lasers are now used in delicate surgical procedures, sight lines for alignment, precision grinding and cutting, lithography, communications and for the marking of products. Laser marking on plastics, that is the marking and decorating of plastic parts, is of particular interest.

Laser marking on plastics is growing in use. Bar codes and product lot data can currently be marked with lasers at high speeds on some commodity resins. However, of specific interest is the use of lasers to mark functional or decorative information on engineering resins. Many engineering resins because of their inert surface characteristic have been difficult in the past to mark via printing using ink. It is extremely difficult, for instance, to pad print on acetal without surface treating with very harsh chemicals. And even if the ink "adheres," the printed markings exhibit very poor wear characteristics and can be easily removed.

Laser marking is an excellent solution when problems in printing occur, or when there is a need for a truly indelible mark. For example in engineering resins such as polyester or nylon, functional components such as connectors and switches can be laser marked with the functional description without fear of the identification rubbing off. In other applications, decorative marks can be made such as company logos and tradenames. These would include such items as car stereo trim plates, electrical component housings and other miscellaneous goods where the part supplier requires an indelible mark.

This paper focuses on the development of specialty grades of engineering resins that yield excellent sharp, clear images when laser marked. Specifically grades have been developed for laser marking on general purpose parts including electronic components. Additional grades have been developed for laser marking on those applications requiring the utmost in ultra-violet (UV) light stabilization for both automotive and non-automotive applications.

Traditional Marking & Labeling Technology

The most common methods for marking plastics today still include ink printing (both pad and ink-jet processes), ink filling, sublimation printing, embossing and stamping. Ink filling refers to the process of manually filling molded-in recessed areas with ink by injecting ink into these areas and wiping off the excess. Of course two-shot, two-color

molding is another method to mark and label, albeit a very expensive one.

Of these traditional methods, ink printing is the most widely used. The primary benefits are the relatively low capital investment and the ability to print (pad print) on curved surfaces. The disadvantages to printing with ink are numerous and include:

- ◆ Non-permanent (relatively poor scratch and wear resistance and chemical resistance)
- ◆ Requires contacting the part surface
- ◆ Potential for smudged or illegible marks and labels
- ◆ Difficult to achieve on engineering resins
- ◆ Pre- and post-treatment processes typically required
- ◆ Environmental concerns including disposal of solvents and other chemicals
- ◆ Potential toxicity and/or flammability of certain solvents
- ◆ Maintenance of ink-jets and mechanical components
- ◆ Not flexible (manufacture of new die/transfer pad required for each new design)

Advantages of Laser Marking

In contrast to ink printing, laser marking of plastics provides excellent images without contacting the surface. Laser marking does require a higher capital investment. But economic analyses that take into account the facts of no consumable supplies required, no new dies/transfer pads required for design changes, speed of design change, and no hazardous waste generation for emissions or disposal, will generally favor laser marking depending on the number of components to be labeled. Even at somewhat higher per part costs, laser marking offers significant advantages that include:

- ◆ Indelible marks
- ◆ Non-contact to surface
- ◆ Extremely sharp images without smudging
- ◆ No pre- or post-treatments typically required
- ◆ No solvent use and no associated disposal
- ◆ Precision placement of marks and letters, even on irregular or curved surfaces
- ◆ Quick design changes via programmable software
- ◆ 2-D-Symbology potential (ultra dense data capability)
- ◆ No adverse effect from part surface moisture
- ◆ Low operating cost (no consumable supplies to purchase such as ink)
- ◆ Low maintenance

Laser Marking on Plastics

The word laser is an acronym that stands for Light Amplification by Stimulated Emission of Radiation. The device itself emits a concentrated, precisely focused parallel beam of light. Lasers typically generate this light using an energy source, a lasing medium that allows the light to concentrate, and reflecting mirrors to direct the energy within the lasing medium. There are three types of lasers currently used to laser mark on plastics. They differ

primarily in the wavelength of the resulting light energy. This is determined by the lasing medium used in the construction of the laser as described below.

TEA-CO2 Laser

As the name implies, this laser uses carbon dioxide as the lasing medium (the acronym TEA stands for Transversal Excited Atmospheric pressure). The TEA-CO2 laser operates at a relatively long wavelength of 10,600 nm. Images are typically produced using a mask that has the information etched into it. The laser fires its intense light through the mask. The resulting image is focused and redirected onto the object. The actual mark is achieved by the partial carbonization of the polymer due to the intense energy and creates an etch into the polymer with a depth typically in the range of 100 to 500 microns.

The quality of mark is comparable to a dot matrix printer especially when marking at high speeds. TEA-CO2 lasers are typically effective for simple coding such as lot numbering. However, high resolution graphics for appearance applications are better served by either of the other types of lasers. For acetal resins in particular, the major portion of the TEA-CO2 laser energy is absorbed by the polymer matrix. This causes engraving of the surface without significant contrast.

Nd:YAG Laser

In contrast to the carbon dioxide laser, the Nd:YAG laser uses a solid state medium of Neodymium Doped Yttrium Aluminum Garnet. The YAG laser, for short, can be constructed to operate either at 1064 nm (near infrared) or doubled frequency at 532 nm (green light). In addition, triple frequency YAGs have recently been developed with operate in the ultraviolet region. Triple frequency YAGs are not as common as fundamental or double frequency YAG lasers. The material's response to the triple frequency would be similar to the Excimer laser discussed later.

YAG lasers are typically interfaced with a computer to generate the graphics using a vector process achieved with focusing mirrors (see Figure 1). The YAG laser in a sense writes on the surface of the plastic part. Since no masks are required, design change and flexibility are improved versus the TEA-CO2 laser. And with the higher frequency, the distinctness of image is also far superior compared to the TEA-CO2 laser.

When operated at the 1064 nm wavelength, the YAG laser creates a mark by melting and foaming the polymer surface.

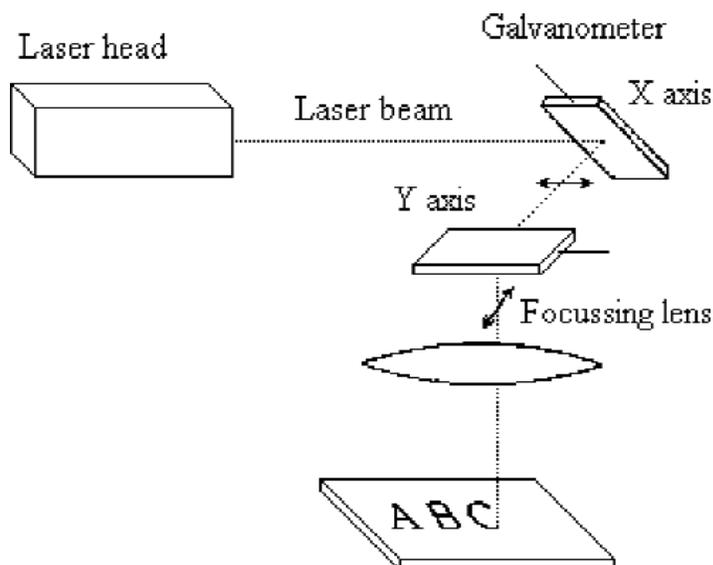


Figure 1

Unlike the TEA-CO2 laser, this surface interaction occurs only to a depth of about 50 microns. When excellent contrast is obtained (bright white mark on a black substrate), the foaming occurs to about 40 microns. By adjusting frequency and power, the amount of foaming can be altered and the color of the resulting mark can be made darker.

Frequency doubled Nd:YAG lasers operate with a wavelength in the visible region at 532 nm (green light) and typically effect pigments and other additives that absorb at that wavelength. The resulting color change is due to a photochemical process occurring to these pigments and additives rather than from melting and foaming of the polymer. However, if very high peak laser output is used, localized heating of the polymer can still occur resulting in melting and foaming.

YAG lasers are becoming increasingly popular for laser marking appearance applications. They are particularly suited for developing a light mark on a dark plastic part. To this end, lasermarkable engineering resins were specially formulated to enhance the contrast of a white mark on a black part using the YAG laser. These resins include acetal copolymer, polyester (PBT) and polyester elastomers, and nylon (long fiber technology grades).

Excimer Laser

The Excimer laser generates UV light in the wavelength

Continued page 20

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Lasermarkable Engineering Resins

Continued from page 19

range of 193 nm to 351 nm. Here the laser marks totally by a photochemical process and the polymer matrix is not thermally loaded. Excimer lasers typically act on titanium dioxide or other mineral fillers to generate a dark mark on a white or light colored substrate. Relatively high levels of pigment or filler are necessary to achieve acceptable contrast. Since the process is photochemical, little to no etching occurs on the polymer surface. Marks penetrate to depths typically less than 40 microns. Excimer lasers have limited use for marking plastics today primarily due to being more expensive than Nd:YAG lasers and their limited ability to only produce a dark mark on a light substrate.

Lasermarkable Acetal Copolymer Resin

Because the Nd:YAG laser is the preferred marking device for developing high contrast marks on a dark substrate, development of a specialty lasermarkable grade of acetal copolymer was focused on that laser type. In particular, the objective was to develop a lasermarkable black formulation that yields the highest possible contrast when marked with the Nd:YAG laser. To that end, black lasermarkable acetal copolymer was developed using patented technology. This resin yields extremely white, high contrasting marks as shown in Figure 2. Conventional black grades show little to no contrast. Typical applications for general purpose lasermarkable resins include appliance buttons and knobs, keypad keys, miscellaneous switches and incremented thumb wheels, and floppy disk shutters. An application such as functional and decorative markings on an electric razor take advantage of the wear and chemical resistance of the laser mark, as well as those same properties of the base acetal copolymer resin.

Building upon this patented technology, a UV stable, lasermarkable resin was developed for interior automotive and other applications. This resin combines the laser marking ability with the world-class ultra-violet light stability and can be laser marked with the Nd:YAG laser to produce excellent white marks with no yellowing caused by the UV stabilizer system. The mark produced on this UV grade is of the same high contrast as depicted in Figure 2.



Figure 2

UV stabilized, lasermarkable acetal copolymer meets all current automotive interior weathering requirements including the 1240.8 kJ/m² exposure requirement which is the highest standard in the industry. This resin is designed to be used in automotive interior functional components such as cassette stereo buttons, hood and trunk release levers, or cruise control buttons. In these applications, the parts can be laser marked with the functional description without fear of the identification rubbing off as currently can occur with ink printed components. In other applications, decorative marks can be made such as company logos and tradenames. An example is a car stereo trim plate marked with either the logo of the automaker or the stereo manufacturer.

Lasermarkable Polyester Resins

Polyester (PBT) resins can also be modified using proprietary technology to achieve contrasting white marks on a black substrate. However, it must be understood that since PBT has higher intrinsic whiteness than other resins mentioned so far, the whiteness of the mark is not as bright as achieved with acetal or nylon. Also, the black substrate color is not as black as in these other resins. This results in the overall effect not having as much contrast as acetal or nylon.

While the contrast may not be suitable for decorative finishes, it is clearly legible for use in functional marks or for identification purposes on such items as electrical connectors or components. Here, where product traceability is required more and more, bar codes or 2-D symbology may be employed capture such information as product and date codes, lot information, manufacture date, manufacturing plant, and so on.

Polyester resins may include unfilled, glass filled, impact modified or mineral filled resins. These may also include polyester elastomers and alloys and blends. As in the case for nylon, the general rule is as the filler content increases, the apparent contrast decreases.

Polyester resins also generally include flame retardant versions. Depending on the laser type, flame retardant polyester resins can be inherently lasermarkable for functional markings. For example, flame retardant PBT natural and light colored grades generally exhibit a black mark when marked with the Nd:YAG laser. The contrasting dark mark is generally acceptable for identification marking as long as the base color is not too dark. Darker colors including black in flame retardant resins will generally require modification to allow a contrasting lighter colored mark

Lasermarkable Long Glass Fiber Nylon Resins

Nylon 6 or Nylon 6,6 based long glass fiber resins can be modified using proprietary technology to achieve high contrast white marks on a black substrate. These grades can include heat stabilizer packages for under the hood applications, or UV stabilizers for interior or exterior applications. As a general rule, as the amount of glass fiber

increases, the lower the contrast achieved in the resulting mark. For example, a long glass fiber nylon 6 containing 40% glass will achieve higher contrast marks (whiter looking marks) compared to a 60% glass reinforced product. Applications for lasermarkable long glass fiber nylon resins include turn signal stalks, tool housings and various under the hood parts where the mark is required to withstand harsh environmental conditions.

Lasermarkable PPS and LCP Resins

Both polyphenylene sulfide and liquid crystal polymer are very opaque resins. As a result, lasermarking on black substrates modified to enhance lasermarkability will achieve marks with reasonable contrast, but not as high in contrast as achieved with other resins like acetal. Again, the marks are of acceptable contrast for functional or informative marks, but may not have enough contrast to be considered for decorative marks. Since these resins find applications in computer systems and other electronic systems, indelible traceability and identification marking is extremely important, particularly for the automotive and aerospace industries.

Both PPS and LCP resins are generally lasermarkable in their natural state depending on the laser employed. In particular, both PPS and LCP resins generally exhibit a contrasting dark mark on natural and light colored resin using a Nd:YAG laser. As the color of the substrate moves darker, the less contrast will be observed unless the formulation is specifically modified to enhance lasermarkability.

The Future in Color

While the initial focus of laser marking has been on developing a high contrast white mark on a black substrate, the possibility of developing a colored mark is intriguing, but challenging. A colored mark would no doubt expand the usage of laser marking and allow greater design flexibility for the customer.

Currently, the Excimer laser will yield a grayish to black mark on a light colored substrate. That is one option for color other than the white mark, albeit a limited one. The Nd:YAG laser offers seemingly more potential for marking colors. In acetal resin for example, laser marking with the YAG laser on a medium to dark color will yield a mark which is lighter in color and similar in hue. For instance, marking on a dark blue acetal part with the YAG laser will yield a light blue mark.

Building on this lasermarking technology, it may be possible in the future to expand the palette of colors when marking with the YAG laser. Possibilities include high contrast colored markings on a black substrate. Our initial successes in this area have included blue, green, yellow, or red marks on a black acetal substrate. What's more, it may be possible in the future to expand on this by developing technology which creates a colored mark on a colored substrate of different hue.

Conclusion

In conclusion, if your application calls for indelible, high contrast marks, combining lasermarkable engineering resins with the Nd:YAG laser will produce the brightest, highest contrasting white marks on black molded parts, that can be achieved in industry today. Equally important, this combination truly eliminates any problems associated with ink printing adhering onto acetal and other resins, and removes any worry concerning the mark wearing off.

References

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3. McKee, "Laser Marking of Polyethylene and Other Polyolefins with Additives", Society of Plastics Engineers, CAD RETEC '94 Proceedings, p. 217-230 (1994)



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The SPE Annual Technical Conference (ANTEC) along with the Plastics News' Plastics Encounter trade show was held in Cincinnati, Ohio at the Duke Energy center May 6 - 10, 2007. There were 656 technical papers. The ANTEC Automotive session took place on Tuesday afternoon May 8th. There were seven technical presentations on the latest developments in automotive plastic materials and applications. The Automotive session was well attended.

The Automotive Business meeting took place May 8th at 5:00PM following the Automotive session technical presentations. Tom Pickett, Norm Kakarala, Nippani Rao, and Jay Raison represented the Automotive Division BOD at the meeting and discussed the goals and activities of the Division with the attendees. Tricia McKnight from SPE International asked about automotive divisions global activities. Tom Pickett and Norm Kakarala addressed her question by talking about the automotive divisions global activities. The Automotive Division supports the European Innovations Awards Program, and there is a global presence at Automotive Division events and conferences throughout the year. Naveen Agarwal, GE, would like to see more automotive meetings in southern US. Johanne Wilson, Ciba, enjoys the Global TPO Conference put on by the Detroit Section but asked that they schedule it so it does not interfere with the Canadian Thanksgiving holiday.

Membership Matters

Marcie Kurcz

To join SPE, visit www.4SPE.org.

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

For more information about ANTEC, visit the SPE website: www.4spe.org.

Joe Aceti	CRA	Frances Everin	Johnson Controls Inc	Didier Lebriez	Spartech Polycom Europe
Ahmad Al-Sheyyab	Universitaet Erlangen	Lisa Feick	Honda R&D Americas	Chul Lee	BASF
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David Boch	Delphi Corporation	Alan Gerken		Yasuhiro Morioka	Washington Penn Plastic
Dietmar Boettner	AgfISS	Jerry Gibbs	Gibbs Machine Corp	Dave Naughton	Kay Automotive Graphics
Diedre Bolemon	Faro	Michael Gogoel	BYK-Gardner USA	Adam Nichols	
Chuck Bower	Medtronic	Heather Golen	Hi-Lex	Fernando Novaes	Polilab Consutoria Empresarial
Michael Britt	BASF Corporation	Sarah Hallock		John Oliveira	
James Browell	JAYCO Sealing Company	William Hardgrove	Green Tokai Co Ltd	Onur Ozcan	Gucsan Plastik Kalip
Bridgette Budhlall	University of Massachusetts	David Hart	Molding International	John Parker	
Le Bui	Hien Dai Plastic Co Ltd	Stephen Hawkins		Robert Philp	Hudson Color
David Calder	Polycon Industries	Jeffrey Helms		Paul Reyes	Formosa Plastics
Murat Cansever	Eurotec Muhendislik Plastikleri	Dan Hershey	Branson Ultrasonics	Matthew Rhodes	
James Chickowski	Materials Sales & Solutions	Charlie Hicklin	Par 4 Plastics Inc	Brandon Roy	
Jae-Ho Choi	Samyang Corporation	Steven Houle	Eaton Corporation	Andreas Seefried	University Erlangen
David Claiborne	Delhi Corporation	Todd Hritz	Ashland Performance Materials	Saurav Sengupta	The Dow Chemical Company
Wayne Claridge	Harman/Becker	Greg Jacobson	PolySource LLC	William Sexton	Sexton Technologies Inc
David Conley	DSM Engineering Plastics	Craig Jaynes	Delphi	Hee Cheol Shin	Samyang Central R&D
Robert Corby		Sylvain Jeannin	BMW AG	Pravin Sitaram	The Haartz Corporation
Justin Crafton	Advanced Elastomer Systems	Hank Jonkman	Autosystems Mfg Inc	John Slaven	General Electric
Marisol De Jesus-Rangel	Deguss Engineered Carbons	Roland Karklin		Phillip Smith	PK USA Inc
Srinivas Devareddy	Tata Autocomp Systems Ltd.	Masatoshi Kobayashi	Honda Engineering Co Ltd	Mark Snyder	
Dan Dowdall	Meridian Automotive Systems	Frank Krabbenborg	Dow Chemical	Jeff Southwick	Krayton Polymers LLC
Denis Dutouquet	Visteon	Curtis Krick	Kistler	Randall Stout	Randall Manufacturing Inc
Michael Dvorak	Wm Barr Company	David Lahнала	AGC Automotive Americas	Francois Styga	Husky Injection Molding
Werner Eckardt	Siemens Vdo Automotive	Sai Lakshmi	Amrita School of Engineering	Christopher Thomas	Dow Chemical
Frank Elliott	American Gfm Corporation	Thomas Lamb	Solutia Inc	Tara Thomasson	Solvay Engineer Polymers

Meeting Minutes - Automotive Division Board Meeting - February 5, 2007

by Tom Pickett, Division Secretary

Attendance:

Mark Lapain, Tom Pickett, Brian Grosser, Fred Deans, Dave Reed, Kevin Pageau, , Josh Madden, Nippani Rao, Ed Garnham, John Fialka, Leah Karibian, Bonnie Bennyhoff, Suresh Shah, Ron Price, Peggy Malnati, Monica Prokopyshen, Suzanne Cole

1. Meeting Called to Order. Chairman Mark Lapain called meeting to order at 5:40 PM. Meeting minutes recorded by Secretary Tom Pickett.

2. Opening Comments. Mark Lapain reviewed the chair's objectives with the board. He indicated that we were successful in keeping the BOD meetings on time. We had concise and organized BOD meetings. Mark remarked on the successful events this year with the Innovations Award and the Composites Conference. Auto EPCON is April 24th and looks like it will be a very good conference. The automotive division website has been updated. Mark would like to continue to add strong members to the BOD. Mark enjoyed the year and the relationships that were developed.

3. Composite Conference - Fred Deans indicated that there are 30 sponsors. Peggy Malnati has sent out the Call for Papers. Have 18 papers and 2 keynote address committed.

4. Auto EPCON. Tom Pickett informed the Board that AutoEPCON conference on Design & Development of Engineering Plastics for automotive will take place April 24, 2007 at the Best Western Sterling Inn Sterling Heights, MI. The conference co-chairs are Tom Pickett and Nippani Rao. The chairs for the sub committees are: Sponsorship - Ron Price; Communications - Tom Pickett, Technical Program - Norm Kakarala; Industry Panel - Terry Cressy, Ron Price; Exhibitors - Ron Price; House - Craig Bellissimo. Helping on the different committees are Mark Lapain, Sandra McClelland, Craig Bellissimo, Suresh Shah, Jay Raisonni, Tom Miller, Pat Levine, Craig Dlugos, Maria Ciliberti, Josh Madden, Jim Kolb, Teri Chouinard, and Mike Hickman. Tom handed out conference flyers to the board members and asked them to distribute to potential attendees.

5. ANTEC Update. Tom Pickett informed the Board that ANTEC is scheduled for May 6th to the 10th in Cincinnati. Tom Pickett is the Chair of the Automotive session on Tuesday afternoon May 8th. There are 7 technical papers in the automotive session. Norm Kakarala, Jay Raisonni, Suresh Shah, Mike Shoemaker, and Kalyan Sehanobish were on the ANTEC Paper Review Committee that helped Tom Pickett review and select the papers for the session. There will be an Automotive Business Meeting on May 8th at 5:00PM following the Automotive session at ANTEC.

6. Innovations Awards. Brian Grosser had a planning meeting in February. If you want to get involved in Innovations Awards talk to Brian Grosser. There are opportunities to volunteer. There will be another planning meeting. Group is discussing the theme. Ticona is a major sponsor. Kevin Pageau indicated there is a company to do the display awards.

7. Treasurer. John Fialka indicated there is \$58k in checking and \$27k in savings for a total \$85K. The Innovations Awards had \$217K income and \$175 expenses for proceeds of \$42K. Donated \$32K for PlastiVan. Fred Deans and Peggy Malnati discussed have committed money for scholarships.

8. Communication. Peggy Malnati updated the Board on the communications work she has done for the Composites, Innovations, and website. New logo banner for the Composites conference. The theme of the Composite conference is Driving Performance & Productivity. Have a high performance vehicle. Call for Papers flyer has been issued. Press release in full swing for the September 11 - 13, 2007 Composites Conference. Pat Levine has sent out e-blast. There are booths at trade shows. Peggy has ads in different plastics magazines. For the Innovations Awards events, Peggy has sent out initial press release. Peggy showed the possible flyers for the Innovations Awards. Peggy took training on the Auto website and showed the nice update she has done on the web site. Peggy discussed the champagne bottle graphic used in the past events. Peggy paid the usage and penalty fee. The BOD agreed to reimburse Peggy for \$3600. Peggy is doing work with editors and input on feature articles and conference speakers.

9. Councilor's Report. Nippani Rao said the next councilor's meeting in May at ANTEC.

10. Newsletter. Kevin Pageau indicated that the April newsletter is 24 pages. The cover has AutoEPCON.

11. Golf Outing. Fred Deans said golf outing is at Fieldstone. The date is to be determined. Looking at a date in late August.

12. Inter Society. No report.

13. Membership. Membership declined by 3% from December 2006 to February 2007. Discussed how to increase membership such as calls to suspended members and enrollment at upcoming conference.

14. Education. Monica Prokopyshen reported on education. Monika showed pictures from Explorathon 2006 and 2007 at the different schools.

15. Open Issues and Conclusions. Ron Price said at Auto Interior show we have a SPE booth. Looking for volunteers to work the booth. Fred Deans informed the BOD on SAE Formula Competition and asked if anyone is interested in participating.

16. Meeting Adjourned - Mark Lapain thanked everyone for coming to the Board Meeting. Meeting adjourned at 7:10pm.

17. Next Meeting. June date to be determined.

www.speautomotive.com

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