Don’t Let Metal Weigh You Down.

Lighten Up With Ticona Engineering Polymers.

Metal is heavy. It’s expensive. The price of steel is triple that of plastic. Fuel economy is king. The definition of lightweight is changing every day, and the demand for materials that deliver low cost, superior performance has never been greater.

At Ticona, we’ve been leading the art of metal replacement innovation for decades.

Our world-class engineering polymers are formulated to deliver economy without sacrificing performance, and to provide a competitive advantage to those who use them. Lightweight structural components. High-temperature and chemical-resistant parts. Aesthetic molded-in-color trim. And more.

If there ever was a time to switch from metal, it’s now. It’s not worth the weight.

Put 50 years of metal replacement experience to work for you.

Contact us at www.ticona.com/hometech or call: 1.800.833.4882

Ticona Engineering Polymers, 8040 Dixie Highway, Florence, KY USA 41042

© 2008 Ticona. Except as otherwise noted, trademarks are owned by Ticona or its affiliates. Ticona is a business of Celanese Corporation.
Polymotive

...the only international specialist magazine about polymers in the automotive industry

Become a subscriber!

ORDER

name .................................................................
company ...........................................................
function ..........................................................
street ...............................................................
city .................................................................
country ...........................................................
phone .............................................................
fax .................................................................
email ............................................................... 
credit card number ............................................
name on card ....................................................
expiration date ...................................................

ORDER

type of subscription

- 1-year Subscription ¹) 8 issues $149,–
- Young Professional's Subscription ²) $99,–
- 2-year Subscription ³) 2 free gifts: a useful tool box, a torch light for your car $289,–

* prices incl. VAT

Orders for subscriptions are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

Fax: +49-6221-65108-28
info@hbmedia.net
www.polymotive.net

fax: +49-6221-65108-28
info@hbmedia.net
www.polymotive.net

* prices in EUR + VAT

Magazines will be dispatched to you by air mail.

Yes, I want to become a subscriber.

* Available to young employees.
(Aged 35 and below) on presentation of copy ID card or similar proof of identity.

* Subject to change without notice.

* Prices exclude delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Delivery times may vary depending on your location.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.

* Orders are made for the repair of errors. The order is deemed to be effective if it is not canceled in writing three months prior to the due date.

* Please note that delivery times may vary depending on your location.

* All prices exclude VAT and delivery costs.
Welcome to the 38th-annual SPE® Automotive Innovation Awards Gala, sponsored by the Automotive Division of the Society of Plastics Engineers (SPE) International. This is the world’s oldest and largest recognition event of its type in the automotive and plastics industries.

I am honored to be your chair for this year’s Automotive Innovation Awards Program. We believe this year’s event is a bright spot in a year of uncertainty. The 2008 nominees provide us with confidence that innovation and creativity are as much alive today as they were in the past. And this evening’s program, synonymous with the theme, Plastics: Vision 20/20, is packed with ideas on how OEMs can meet the new, corporate-average fuel economy (CAFE) standard of 35 mpg / 15 km/ liter by the year 2020 without sacrificing safety, aesthetics, cost-competitiveness, or manufacturing efficiencies.

Tonight’s event is an SPE Automotive Division tradition to honor the people, parts, and innovation that make plastics the material of choice in automotive and ground transportation applications. This event also makes it possible for SPE to support and encourage current and future engineers, designers, materials specialists, and scientists as they seek to advance transportation technologies in the 21st Century.

It takes our volunteer team countless hours of preparation to put on this program and I would especially like to thank the following for their contributions:

- Kevin Pageau for managing the entire part nomination process;
- Mark Lapain and Teri Chouinard for recruiting sponsors;
- Peggy Malnati and Jill Gorter for all of the marketing communications support;
- Roeland Polet (and the Ticona Team) for hosting the SPE and Blue Ribbon Judging as well as being the major sponsor of SPE’s Automotive Division all year;
- Monica Prokopyshen for coordinating the Blue-Ribbon Panel;
- Nippani Rao for coordinating the Lifetime Achievement Award Winner; and
- Suzanne Cole for coordinating the Executive Leadership Team Award Winner as well as the gala logistics.

Many thanks also go to our large team of Category Captains, student ushers, vendors, judges, attendees, and loyal sponsors. Their dedication and generous support - in terms of time and money - really helped make this event possible.

November 20, 2008
Tonight’s program is divided into a number of nomination categories and executive awards that include:

- Body Exterior,
- Body Interior,
- Chassis, Hardware & Powertrain,
- Lifetime Achievement Award,
- Materials,
- Past Chair Award,
- Environmental,
- Executive Leadership Team Award,
- Performance & Customization,
- Vehicle Engineering Team Award,
- Process, Assembly & Enabling Technologies,
- Safety,
- Hall of Fame, and
- The Grand Award.

The SPE volunteers who acted as Category Captains - scouting out and recruiting nominations, championing the presentation teams, and guiding the judging process - will recognize the finalists in each category and then announce the winning nomination. The final category, called the Grand Award, represents the entry judged most innovative of all the nominations we received this year. It is the highest honor we bestow. In spite of limited vehicle launches, the competition in each category was very intense this year. What you will see tonight are innovations that are truly the “First-Time Ever Implemented” resulting in trademarked vehicle options; process, design and material patents; and licensed rights of practice. I would like to thank the Category Captains for their efforts and congratulate each winning nomination.

We will present three additional honors tonight to recognize exceptional leadership in automotive plastics. Congratulations to Mr. Frank Macher who is receiving our Lifetime Achievement Award; the FreedomCAR Fuel Partnership, which is receiving our Executive Leadership Team Award; and Mr. Paul Mascarenas and the Ford Flex Team, who are receiving our Vehicle Engineering Team Award. You’ll hear more about the accomplishments of each of these individuals and teams shortly.

Once again, welcome, thanks for coming, and enjoy the show!

Maria Ciliberti

Maria Ciliberti
'08 SPE Automotive Innovation Awards Program Chair
Chair-Elect, SPE Automotive Division
Ticona
GALA & AFTERGLOW SPONSOR

GOLD SPONSORS

SILVER SPONSORS

- American Chemistry Council
- DuPont
- Plastics Division
- BASF
- INTEVA Products
- NOVA Chemicals
- Sabic Innovative Plastics
- Plasan Carbon Composites
SCHEDULE OF EVENTS

5:00 – 6:30 PM
RECEPTION / PREVIEW NOMINATED PARTS & VEHICLE DISPLAYS

6:30 PM
SEATING FOR DINNER BEGINS

6:45 – 7:00 PM
WELCOME / DINNER
Maria Ciliberti, Ticona and 2008 SPE Automotive Innovation Awards Program Chair
Mark Lapain, Magna International and 2007-2008 SPE Automotive Division Chair
Roeland Polet, Ticona

7:00 – 9:00 PM
GALA PROGRAM

BODY EXTERIOR
Jeff Webb, Ford Motor Co.

BODY INTERIOR
Doug Pickett, General Motors Corp.

CHASSIS, HARDWARE & POWERTRAIN
John Snider, General Motors Corp.

LIFETIME ACHIEVEMENT AWARD
Budd Marx, retiree, Ford Motor Co.

MATERIALS
Monica Prokopyshen, SPE Automotive Division

PAST CHAIR AWARD
Tom Pickett, General Motors Corp.

ENVIRONMENTAL
Chris Boese, Ford Motor Co.

EXECUTIVE LEADERSHIP TEAM AWARD
Suzanne Cole, Cole & Associates

PERFORMANCE & CUSTOMIZATION
Dan Vivian, Hyundai Motor Co.

VEHICLE ENGINEERING TEAM AWARD
Maria Ciliberti, Ticona

PROCESS, ASSEMBLY & ENABLING TECHNOLOGIES
Bonnie Bennyhoff, ExxonMobil

SAFETY
Kevin Pageau, Tegrant Corp.

HALL OF FAME
Dave Reed, David B. Reed Consulting LLC

GRAND AWARD
Maria Ciliberti, Ticona

9:00 – 11:00 PM
AFTERGLOW RECEPTION
Everyone Invited to Attend

BLUE RIBBON JUDGES

Lindsay Brooke
Society of Automotive Engineers, Automotive Engineering Magazine

Dale Brosius
Composites Technology & High-Performance Composites Magazines

Alexander Buechler
Polymotive

Tony Delagio
Modern Plastics Worldwide

Subi Dinda,
Oakland University, Chrysler (retired)

Bob Eller
Robert Eller Associates LLC

Fred Garnham
Becker Group (retired)

Joe Grande
Plastics Technology Magazine

Kevin Kelly
Automotive Design and Production Magazine

James Kolb
Plastics Division of the American Chemistry Council

Mike LeGault
Composites Technology & High-Performance Composites Magazines

Chuck Manke
Wayne State University

Josh Madden
Mold Release Products

Rhoda Miel
Plastics News Magazine

Tom Murphy
Ward’s AutoWorld Magazine

Al Murray
Allied Composite Technologies LLC, SPE Emeritus

Irv Poston
General Motors Corporation (retired), SPE Emeritus

Ron Price
Global Polymer Solutions

Tom Russell
Allied Composite Technologies LLC

Roy Sjöberg, Consultant
Team R2S LLP

Doug Smock
Design News Magazine

Mike Tolinski
Society of Plastics Engineers, Plastics Engineering Magazine

William White
Lawrence Technological University

Conrad Zumhagen
The Zumhagen Company, LLC
There's a Scoop in Every Story...

There's a world of information out there on the global automotive industry. If only you could afford the time to read all of it. Automotive NewsWire brings you the top news stories each day on the Tier level suppliers, new automotive technology, and the OEMs, right to your desktop. Get news and commentary like it's never been delivered before. Get the Scoop now!

Go To: www.autonewswire.net
Acrylic Appliqués w/ SecureCode™ Invisible Keypad
2009MY Ford Motor Co. Ford® Flex™ CUV

System Supplier: Windsor Mold
Material Processor: Windsor Mold
Material Supplier: Arkema
Resin: Plexiglass® PMMA
Tooling Supplier: Windsor Mold

The high-gloss black acrylic pillar appliqués features Ford’s industry-first SecureCode™ invisible-touchpad keyless-entry system while facilitating the Flex CUV’s signature floating roof design. First-surface dual-shot molding technology, highly polished precision tools, along with uniquely tuned acrylic materials are used to provide a mirror-like finish, and excellent dent, ding, and scratch resistance that is superior to metal appliqués.

Eye-Level Panoramic Roof System
2008MY Daimler AG Smart for Two® Minicar

System Supplier: Webasto
Material Processor: Webasto
Material Supplier: Bayer MaterialScience AG
Resin: Makrolon® AG2677 PC
Tooling Supplier: InGlass

Produced via injection-compression molding, this is the largest eye-level panoramic roof system in the world and makes use of polycarbonate. The system increases the daylight-opening space of the vehicle while reducing mass a nominal 40% vs. glass. The roof is tough, resistant to cracking during side impacts, and has low HIC values for added safety.

Pickup Cargo Management System
2009MY Chrysler LLC Dodge® Ram® Pickup

System Supplier: ABC Group
Material Processor: ABC Group
Material Supplier: ABC Group, Salflex Polymers Ltd., & Dow Automotive
Resin: Salflex® 815GC GF PP & Pulse® 2000EX PC/ABS
Tooling Supplier: ABC Supreme Tooling Group

The RamBox™ is an all-plastic construction that provides customers with 7.4 ft³ / 0.21 m³ of dry, lockable storage space within the sheet metal of the pickup-box fender wells. The system also provides a multi-position, self-adjusting, dual-use bed extender / bed divider for increasing cargo space and securely partitioning cargo within the box. Core components are injection and blow-molded, with mold-in-color surface, and a body-color matching appliqué.

Integrated Rocker Molding / Running Board System
2008MY Ford Motor Co. Ford® Escape® SUV

System Supplier: ABC Group
Material Processor: ABC Group
Material Supplier: Salflex Polymers Ltd.
Resin: Salflex® 30% GF PP
Tooling Supplier: ABC Group

For the first time, rocker moldings, end features, and running board / step area are combined in a single blow-molded component that is foam-sealed to the body side for improved craftsmanship, fit, and finish. The component also reduces weight (8.6 lb / 3.9 kg), lowers piece-price and assembly costs ($5 USD / vehicle), provides improved stone-chip resistance, and reduces assembly time.
Integrated Refrigerator / Rear Floor Console
2009MY Ford Motor Co. Ford® Flex™ CUV

An industry first, this unit combines a rear-floor console with a compressor-driven refrigerator (whose cooling-time performance exceeds most home units). The molded-in-color refrigerator compartment assists with moisture management as well as cleanability, and a unique integral vent design supports thermal-management requirements while drawing only 4.5 amps of power and with low noise output. Recycled, injection-molded glass-filled polypropylene is used to reduce cost, mass, and assembly.

All-Plastic Integrated Floor Shifter / Front Console
2009MY Ford Motor Co. Ford® Flex™ CUV

This modular floor console and shifter assembly uses an all-plastic (recycled, injection-molded SMA) structure to support a floor-based shifter and eliminate use of metal bracketry previously used to secure the shifter to the vehicle floor pan. The integrated system simplifies online assembly and improves package space, thus improving stowage and craftsmanship. It also reduces cost ($7 USD plus assembly labor) and weight (5 lb / 2.3 kg) vs. earlier designs.

DYLARK® Engineering Resins
Premium Quality, Affordable Solution

1.800.233.6461 www.DYLARK.com

NOVA Chemicals®
Crushable Armrest with Decorative Grab Handle
2009MY Ford Motor Co. Ford® Flex™ CUV

System Supplier: Johnson Controls
Material Processor: Leon Plastics
Material Supplier: All-Rite Industries
Resin: High-Heat ABS
Tooling Supplier: Leon Plastics

This injection-molded, crushable armrest substrate with snap-on stainless-steel decorative rings provides a durable, crafted, bright-accent appearance in place of traditional multi-piece assemblies. The design avoids multi-piece buildups of the armrest and meets safety crush loads and durability requirements, saving over $6 / handle and $150,000 USD in manufacturing & assembly costs.
**TPO for Hard Seamless PAB Applications**

2008MY Ford Motor Co. Ford® Focus® Compact Car

*System Supplier:* Automotive Components Holdings  
*Material Processor:* Automotive Components Holdings - Saline  
*Material Supplier:* Advanced Composites  
*Resin:* ADX-5028 TPO and TPE  
*Tooling Supplier:* N/A

This seamless passenger airbag (PAB) system for hard instrument panels (IPs) delivers superior low-temperature performance and improved aesthetics in a C-car package environment. A steel door is overmolded with TPE, then vibration welded to the B-surface of the IP. A TPO reaction ring incorporates demister duct geometry. The system is 5 lb / 2.3 kg lighter and $20-25 USD less costly than a comparable system for a soft IP.

---

**Integrated Roof Shade / Aux. AC Duct / Headliner Reinforcement**

2009MY Ford Motor Co. Ford® Flex™ CUV

*System Supplier:* Dakkota Integrated Systems LLC  
*Material Processor:* H.S. Die  
*Material Supplier:* N/A  
*Resin:* High-Heat ABS & Lofted GMT Composite  
*Tooling Supplier:* H.S. Die

This integrated headliner system arrives at the assembly plant already carrying an auxiliary air-conditioning (AC) duct, headliner stiffener, headliner attachment base, moon-roof opening stiffening rings, and dual sun-shade carrier, reducing online assembly operations and costs, lowering part count from 22 to 15, lightening the headliner by 1 lb / 0.45 kg, and allowing for a larger daylight opening and better airflow management and distribution. By integrating the duct and shade system using high-heat ABS and a high-strength hot-melt adhesive with nitrogen-assist spray, the installation process can be better controlled to meet required tolerances, saving $10-15 USD piece cost / vehicle and $2.45-MM USD in tooling avoidance.

---

**Open-Face Floor Console with Flexible Storage**

2008MY Ford Motor Co. Ford® Escape® SUV

*System Supplier:* Automotive Components Holdings  
*Material Processor:* N/A  
*Material Supplier:* Advanced Composites & SABIC Innovative Plastics  
*Resin:* PP & ABS  
*Tooling Supplier:* N/A

The efficient design of this open-face floor console with integrated reinforcement bin eliminates steel for weigh and cost efficiencies and improved storage volume. The flexible patented storage system features: better access to the large storage area (it holds a laptop computer or a purse), better armrest accommodation and storage for rear occupants, and a pair of innovative-removable hanging cupholder clips that hook onto the bin in front and back.
Rubber World
The Global Technical Publication for Rubber

Congratulations SPE Award Winners

Fuel and oil resistance achieved in 100% F-LSR
Low Mooney viscosity HNBRs with high acrylonitrile content
Stabilization of millable polyurethane

The Buyer's Guide for the Rubber Industry
RUBBER RED 2008 BOOK 60th Edition

Driving Innovation

Congratulations to the winners of the SPE Automotive Innovation Awards

For close to 50 years SABIC has played a key role in automotive design, providing specialist, tailor-made solutions to satisfied partners in the automotive industry. We offer a broad range of products for automotive interiors, exteriors, lighting, glazing and under the hood applications.

By working closely with our automotive customers, we can help them develop better ideas. Ideas that will benefit their business and their customers. Ideas that will make safer, cleaner, more exciting and more efficient cars for people all around the world today and well into the future. Ideas that change things for good.

Together we can start to make the future better.

sabic.com

Sharing our futures
Liftgate Structural Inner Panel
2009MY Ford Motor Co. Ford® Kuga® Compact CUV

System Supplier: Trident Plastics
Material Processor: Trident Plastics
Material Supplier: SABIC Innovative Plastics
Resin: NORYL® GTX 8230 GF PPO/PA
Tooling Supplier: Delta Technologies Group

This is industry’s first injection-molded plastic over a hydroformed steel tube front-end carrier, yielding excellent craftsmanship and styling freedom, a 30% mass & 70% part-count reduction vs. stamped steel, package space reduction for aggressive lighting design, and improved airflow, which reduces radiator warranty issues. Special 3D plastic mechanical attachments to the steel tube create a secure connection and help the vehicle achieve a 5 Star Crash Rating – the first Australian vehicle to do so.

Oil Pan Module
2008MY Daimler AG Mercedes® C-Class 4-Cylinder Diesel Sedan

System Supplier: Martinrea Industries, Inc.
Material Processor: Martinrea, Bishop Circle Assy.
Material Supplier: DuPont Automotive
Resin: HTN FE8200 PPA
Tooling Supplier: Martinrea Reed City Tool & Die

North America’s first plastic capless refueling system with a mis-fuel inhibitor uses injection-molded, ultrasonically welded high-temperature polyphthalamide (PPA), which is also conductive to bleed off static charge. Laser etching is used to mark operator instructions and serial numbers permanently. The unit combines vacuum relief with fuel sealing and eliminates previous challenges of unscrewing gas caps, the risk of losing or improperly reinstalling the cap, or not installing the cap at all. It also prevents consumers from accidently using the wrong fuel type. And it reduces comparative hydrocarbon emissions and meets LEV-II requirements for evaporative emissions.

Capless Refueling System with Mis-Fuel Inhibitor
2009MY Ford Motor Co. Various

System Supplier: Trident Plastics
Material Processor: Trident Plastics
Material Supplier: SABIC Innovative Plastics
Resin: NORYL® GTX 8230 GF PPO/PA
Tooling Supplier: Delta Technologies Group

This is industry’s first injection-molded plastic over a hydroformed steel tube front-end carrier, yielding excellent craftsmanship and styling freedom, a 30% mass & 70% part-count reduction vs. stamped steel, package space reduction for aggressive lighting design, and improved airflow, which reduces radiator warranty issues. Special 3D plastic mechanical attachments to the steel tube create a secure connection and help the vehicle achieve a 5 Star Crash Rating – the first Australian vehicle to do so.

System Supplier: Martinrea Industries, Inc.
Material Processor: Martinrea, Bishop Circle Assy.
Material Supplier: DuPont Automotive
Resin: HTN FE8200 PPA
Tooling Supplier: Martinrea Reed City Tool & Die

North America’s first plastic capless refueling system with a mis-fuel inhibitor uses injection-molded, ultrasonically welded high-temperature polyphthalamide (PPA), which is also conductive to bleed off static charge. Laser etching is used to mark operator instructions and serial numbers permanently. The unit combines vacuum relief with fuel sealing and eliminates previous challenges of unscrewing gas caps, the risk of losing or improperly reinstalling the cap, or not installing the cap at all. It also prevents consumers from accidently using the wrong fuel type. And it reduces comparative hydrocarbon emissions and meets LEV-II requirements for evaporative emissions.

Liftgate Structural Inner Panel
2009MY Ford Motor Co. Ford® Kuga® Compact CUV

System Supplier: Plastal
Material Processor: Plastal
Material Supplier: SABIC Europe
Resin: STAMAX® 30YM240MB LGF PP
Tooling Supplier: N/A

This is the first time injection-molded long-glass polypropylene with molded-in-color was used to form a structural inner panel for a liftgate, which also has partial first-surface exposure. The component allows a steep swept design to be achieved while also reducing mass 40% vs. steel and saving 10-20% based on component integration and assembly-cost savings.

System Supplier: G. Bruss GmbH
Material Processor: Bruss
Material Supplier: DuPont Automotive
Resin: Zytel® 70G35 PA 6/6
Tooling Supplier: N/A

This is the first modular plastic oil pan module adopted for passenger cars. It integrates an uppershell of diecast aluminum and a multifunctional lower shell injection molded from glass-reinforced nylon 6/6. An integrated windage tray (oil deflector) reduces oil vapor around the crankshaft (improving horsepower 5%), lowers air entrapment in the oil, and decreases friction for longer bearing life. The component is 2.4 lb / 1.1 kg lighter and 20-25% less costly than an all-aluminum design and use of integrated oil baffles improves flow and reduces sloshing of oil.
Frank Macher, chief-executive officer and managing partner of FMAC & Associates, LLC of Ann Arbor, Mich., is being honored tonight with SPE's prestigious Lifetime Achievement Award, which recognizes the technical achievements of automotive industry executives whose work - in research, design, and/or engineering, etc. - has led to significant integration of polymeric materials on vehicles. Macher, a recognized expert in strategic and business planning, advanced technologies, product development, and manufacturing processes and operations, was selected to be this year's award recipient due to his long and distinguished career in the automotive industry managing businesses with strong plastic-component operations.

Previously chief-executive officer (CEO) and president of Collins & Aikman Corp. (C&A), a $4-billion USD supplier of automotive interiors, Macher began his position after the company declared bankruptcy. In 2006, Macher was recognized by Automotive News magazine as their "Supplier All-Star" of the year for his ability to keep C&A operating despite its cash challenges.

Before joining C&A, Macher was CEO and chairman of the board of Federal Mogul Corp., a $6-billion USD publicly traded company in the automotive powertrain and aftermarket sectors. While there, Macher restructured the company in an asbestos-related Chapter 11 bankruptcy, which allowed for a massive operational turnaround for the company with $600-million USD in cost savings. This move also increased revenues, consolidated operations, and expanded the company's manufacturing operations into low-cost manufacturing regions such as China and Eastern Europe.

Prior to his term at Federal Mogul, Macher was president and CEO of ITT Automotive, a $6-billion USD subsidiary of ITT Industries. There, he led the divestitures of the TEVES brake and control business for $1.9-billion USD and the Rotating Electrical Group for $1.7-billion USD. These divestitures provided ITT with a major cash infusion that allowed the company to successfully grow its core fluids, connectors, and defense businesses, creating substantial shareholder value.

The majority of Macher's long and distinguished career was spent at Ford Motor Co., where he held many key executive positions, including vice-president, Automotive Components Group, an $11-billion USD operation and the predecessor to Visteon. In addition, Macher developed a joint venture with Halla Climate Control, which now is a $2-billion USD developer of low-cost heating/ventilation/air conditioning (HVAC) systems for the automotive industry. Macher also held the position of vice-president-Ford North Pacific, where he was a member of the board of directors of Mazda Corp. Other key positions he held during his three decades at the automaker included director-Corporate Quality, chief engineer-interiors, and general manager of two divisions. During the early days of Macher's career, he was involved in many automotive plastics innovations, including the first: polyethylene fender liner on the Lincoln Town Car (early 1970s); two-shot, rear tail lens molding process (developed with Farrell Corp. and fellow Ford employee, Larry Westin) around 1972; all-plastic, one-piece instrument panel on the 1975MY Cougar passenger car; electron-beam (E-Beam) cured paint for plastic instrument panels around 1975 (with Ford employee, Norm Brennan); blow-molded polyethylene fuel tank on the 1979MY Mustang sports car; and tubular cross-car beam designs (working in conjunction with Ford's William Caldwell) that provided stiffness, structure, and reduced noise/vibration/harshness (NVH) for modular instrument panel systems, which could now be plugged into the vehicle as a single assembly for just-in-time (JIT) sequencing operations.

Macher is a former board member for Decoma International, Federal Mogul, and Collins & Aikman. He has also served on the Massachusetts Institute of Technology (MIT) Leaders for Manufacturing Board, Stanford Industrial Manufacturing Advisors, and Kettering University Board of Trustees. He is currently a board member of Tenneco Corp., where he also serves on the Audit Committee. Macher has lectured in the MBA programs at Harvard University, Dartmouth College, and currently guest-lectures annually at Georgetown University. He holds a BS degree in Mechanical Engineering from Kettering University, and an MBA from Michigan State University.

SPE® Honors Frank Macher with Lifetime Achievement Award at Innovation Awards Gala
Luminous ambient light doesn’t only come from the moon...

ACRYLITE® df light diffusing acrylic polymer technology illuminates auto interiors with a soft, subtle glow.

Ford Flex Ambient Lighting is empowered by the technology of ACRYLITE df light diffusing acrylic polymers.

ACRYLITE® df polymers offer:
- Superior light diffusion
- High lighting efficiency
- Excellent hiding power
- 20%-40% increase in light transmittance
- Reduced lighting costs due to lower energy requirements

Also available in an impact grade - ACRYLITE PLUS® zdf impact light diffusing acrylic polymers

For more information contact:
Steve Ferrero
Market Development Manager
616-450-6046
steve.ferrero@evonik.com

Pete Allread
Market Segment Manager
614-885-2704
peter.allread@evonik.com

Evonik Cyro LLC
379 Interpace Parkway
Parsippany, NJ 07054
800-631-5384
www.cyro.com

Evonik. Power to create.
As a more cost-effective and environmentally responsible alternative to chrome or paint, this special-effects ASA resin, featuring a molded-in, bright-silver-metallic effect, eliminated the need for secondary painting or plating while achieving the bright-silver look desired. This is North America’s first high-gloss, MIC metallic ASA grille mesh. A jet black, non-metallic version of the resin is molded in the same tool.

Special pigment and resin system yields a direct-metallizable thermoplastic polyester reflector resin with very-low plate-out and excellent surface replication. Productivity is enhanced 50% by reducing tool cleaning, and a cost avoidance of 15-20% is achieved due to reduced scrap from appearance-related issues.
MATERIALS

Long-Glass PP for A-Surface Overhead Console
2009MY Ford Motor Co. Ford® Flex™ CUV

System Supplier: Grupo Antolin
Material Processor: Grupo Antolin
Material Supplier: Ticona
Resin: Long-Glass PP
Tooling Supplier: N/A

This is a unique use of injection-molded long-glass fiber-PP materials in an above-the-beltline, Class A interior part with light texturing and in light colors. It replaced a talc-filled TPO material that had insufficient thermal stability. A special UV-protection package helps stabilize the colorant; components are sonically welded to the bin door. The A-surface side of the mold is heated hotter than the B-surface side to ensure a resin-rich surface and avoid glass read-through for excellent aesthetics. Improved craftsmanship and appearance come at a slight cost reduction as well.

TPE for Slush Molding of IP Skins
2009MY General Motors Corp. Saab® 9-7X SUV

System Supplier: Inteva Products
Material Processor: Inteva Products
Material Supplier: Inteva Products
Resin: STP 747 TPO/TPE
Tooling Supplier: FET Engineering Inc.

This patented application represents the first use of a TPO/TPE slush-molded IP manufactured in North America. The low-cost polyolefin-blend material for thin skins is produced on the same equipment as the vinyl and urethane it replaces while providing equivalent or better performance at 20% lower weight and with no VOC emissions or fogging. A unique additive imparts high powder-packing density and superior powder flow.

Insight.
Inside.
Inteva.

Look Inside Inteva

As a world-leading interior and closure expert, Inteva has more industry insight than anyone else. We go deeper, look in more corners, and use the creative brilliance of our 3,800 experts to propel you forward.

Look deeper into our latest innovative solutions. Call Inteva anytime at 248.655.8989 or visit us at inte vaproducts.com.

www.intevaproducts.com
Low-Mass SMC Hoods
2008MY Navistar Inc. International® TranStar® Class 8 Truck

System Supplier: Core Molding Technologies
Material Processor: Core Molding Technologies
Material Supplier: Ashland Inc.
Resin: AROTRAN® 720 / 722 Unsaturated Polyester
Tooling Supplier: N/A

This lower density, tough, Class A SMC maintains the physical properties of standard SMC at 20% lower filler loadings via the use of nanoclay reinforcements. This lowers specific gravity from 1.9 to 1.55, reducing part weight, increasing hauling capacity of a truck 21 lb / 9.5 kg per trip without exceeding load limits, and increasing productivity for a fleet owner by $2-million USD / year.

Laser Markable Crash Sensors
2009MY Ford Motor Co. Various Vehicles

System Supplier: Autoliv
Material Processor: Microplastics
Material Supplier: Ticona
Resin: Celanex® 3309 HRLM PBT
Tooling Supplier: N/A

This injection-moldable PBT material combines hydrolysis resistance to meet USCAR Class II requirements with laser markability for product traceability and assembly via laser welding for use in a safety-critical part. The formulation has been optimized for dimensional stability in humidity, optimal lasermarking resolution, and laser welds that are impermeable to moisture and not vulnerable to alkali attack.

ExxonMobil Chemical
technology + performance

Congratulations to SPE on the 38th Annual Automotive Innovation Awards Competition and Gala.

ExxonMobil Chemical is committed to maintaining a leadership position in technology fundamental to the success of our customers. We offer a broad portfolio of specialty elastomers to help increase automotive performance capabilities and drive down system costs.
A new Ford strategy mandates use of post-consumer recycled (PCR) materials – where supply is available – on new programs for a variety of components, e.g., multiple underhood, underbody and exterior black, UV-stable trim parts. Approximately 20 lb / 9.1 kg of PCR plastics are used to produce the front and rear splash shields, rear tire spoiler, radiator air deflectors, and front-bumper cover chin spoiler. Material is compounded to offer improved UV stability and impact strength. Since material is not tied to crude prices, costs of finished parts are approximately 20% lower than previous products, saving an average of $4 USD / vehicle.

**TPV Primary Seal & Notched Plastic Carrier**
Adrian Steel Cargo Box for Work Trucks

**Soy Foam Automotive Seat Cushions**
2007MY Ford Motor Co. Ford® Mustang® Sports Car

**Post-Consumer Recycled Plastic Underbody System**
2009MY Ford Motor Co. Ford® Flex™ CUV

**System Supplier:** JYCO  
**Material Processor:** JYCO  
**Material Supplier:** Elastogreen  
**Resin:** Elastogreen® 1045D 45D TPE / TPO  
**Tooling Supplier:** JYCO

This is the first 100%-recyclable, all-plastic carrier seal for a tough-duty cargo box, replacing co-extruded metal or wire mesh and EPDM rubber. Production of the TPV seal uses 70% less energy than EPDM, eliminates production scrap sent to landfills, has no VOC emissions, and is 20% lighter than a metal carrier system, while also lowering costs 5-15%.

**System Supplier:** Lear Corp.  
**Material Processor:** Lear Corp.  
**Material Supplier:** N/A  
**Resin:** PUR  
**Tooling Supplier:** N/A

This is the first use of soy-based polyol to formulate flexible polyurethane foam for commercial automotive seat backs and cushions. By replacing up to 25% of the petroleum-derived polyol in typical urethane foam, a more sustainable material is created, CO2 emissions are reduced, no tooling changes are required, and cost is neutral.
Recycled TPO Air Inlet Panel / Leaf Screen
2008MY General Motors Corp. GMC® Envoy® & Chevrolet® Trailblazer® SUVs

System Supplier: N/A
Material Processor: Nyloncraft Inc.
Material Supplier: MRC Polymers Inc.
Resin: Maxtel® 600T25-BK TPO
Tooling Supplier: N/A

A proprietary paint-removal process produces recycled material with minimal contamination, a common challenge with recycled TPOs. Physical properties are equivalent to those of virgin resin for this aesthetic, non-painted part in a highly visible location subject to outdoor weathering. Cost savings of 2.2% were achieved vs. virgin resin and 445,000 lb / 201,848 kg of landfill-bound material was salvaged.

Up-Cycled PBT Air-Register Vanes
2009MY Chrysler LLC / Volkswagen AG RM Routan Minivan

System Supplier: Summit Polymers
Material Processor: Summit Polymers
Material Supplier: SABIC Innovative Plastics
Resin: Valox IQ™ iQ8280SF 40% GR PBT
Tooling Supplier: N/A

Molded-in-color, Class A aesthetics with high stiffness are achieved with post-consumer recycled (repolymerized) PBT whose properties match those of virgin material. The up-cycling / repolymerization process eliminates 8.5 barrels of crude oil / ton and 60% lower CO₂ emissions vs. PBT from conventional monomer.

As long as there are challenges in engineering plastics, it's good to know BASF is committed to your success.

For more information, call 1-800-BC Resin (1-800-227-3746), or visit us at www.plasticsportal.com/usa
LIGHTWEIGHT PLASTICS & PLASTIC COMPOSITES CAN ENHANCE VEHICLE SAFETY.

For more information on future innovations in automotive, contact ACC’s Automotive Center

AUTOMOTIVE CENTER
1800 Crooks Road, Suite A, Troy, MI 48084 | 248.244.8920

www.americanchemistry.com/plastics-car
BE RELEVANT

Matter to the people who matter to your bottom line.

AUTOMOTIVE DESIGN and PRODUCTION

www.autofieldguide.com
Don’t Let Metal Weigh You Down
Lighten Up With Ticona Engineering Polymers

Integrated System Solutions

1 Door/Lock/Window
   Hostaform®, Celcon®, acetal copolymer, Celstran®, LFRT, Celanex®, PBT

2 Front End Modules
   Celstran®, LFRT, Celanex®, PBT, Impact®, PET

3 Electrical
   Celanex® PBT, Fortron® PPS, Vectra® LCP, Hostaform®/Celcon® acetal copolymer

4 Power Distribution
   Celstran® LFRT, Celanex®, PBT, Vectra® LCP, Fortron® PPS

5 Cockpit Environment
   Celanex®, PBT, Vandal®, PBT, Riteflex® TPC-ET, Hostaform®, Celcon®, acetal copolymer

6 Underbody Skid Plates
   Celanex®, PBT, Celstran®, LFRT

7 Advanced Fuel Delivery
   Hostaform®, Celcon®, acetal copolymer, Fortron® PPS, Celanex®, PBT, Riteflex® TPC-ET

8 Seating & Restraint
   Hostaform®, Celcon®, acetal copolymer, Celstran®, LFRT, Riteflex® TPC-ET, Celanex®, PBT, Vandal®, PBT

Except as otherwise noted, all of the trademarks referenced herein are owned by Ticona or its affiliates. Fortron is a registered trademark of Fortron Industries IFC. Ticona is a business of Celanese Corporation. Copyright © 2008 Ticona. All Rights Reserved.
World-Class Engineering Polymers

Celanex® Thermoplastic Polyester
- Outstanding thermal and chemical resistance
- Toughness
- Rigidity
- Exceptional dimensional stability
- Superior electrical properties

Hostaform®/Celcon® Acetal Copolymer
- Excellent mechanical properties
- Inherent lubricity
- Chemical and fuel resistance
- Broad temperature use range
- Aesthetics including low gloss and colors

Celstran® and Compel®
Long Fiber Reinforced Thermoplastics
- High stiffness
- Exceptional toughness
- Long-term dimensional stability
- Wide temperature use range
- Scalable electrical properties

Fortron® Polyphenylene Sulfide
- High continuous use temperature
- Resistance to auto fuels and fluids
- Inherent flame resistance
- High strength and dimensional stability

Impet® Thermoplastic Polyester
- Outstanding physical properties
- Superior thermal and chemical resistance
- Toughness
- Rigidity
- Dimensional stability
- Wide temperature use range

Ritflex® Thermoplastic Polyester Elastomer
- Excellent toughness and fatigue resistance
- Outstanding chemical resistance
- Good low temperature impact
- Wide temperature use range

Vandar® Thermoplastic Alloy
- Excellent chemical resistance, ductility
- High impact strength at low temperatures

Vectra® Liquid Crystal Polymer
- Superior thermal characteristics and dimensional stability
- High strength and modulus
- Broad chemical resistance
- Low mold shrinkage
- Excellent electrical properties
- Inherent flame resistance

www.ticona.com
SPE® Honors FreedomCAR & Fuel Partnership for Leadership in Developing Technologies for Next-Generation Vehicles

The FreedomCAR and Fuel Partnership (FC&FP) tonight will receive SPE’s Executive Leadership Team Award, which recognizes the group’s leadership in sponsoring research on ‘leapfrog’ technologies in plastics and composites for automotive applications and its work helping develop technologies for the next generation of vehicle transportation. Key areas of research by the FC&FP include: Lightweight Structures / Low-Cost Carbon Fiber; Lithium-Ion (Li-ion) Batteries; and Hydrogen Fuel-Cell Vehicles (FCVs).

Suzanne Cole, president, Cole & Associates and past chair of the SPE Automotive Division, who is presenting the award this evening, said “The U.S. government is committed to promoting the transformation of the transportation sector via development of lightweight, efficient and sustainable vehicles and an infrastructure to support them. Through USCAR, the Detroit automakers are advancing collaborative automotive research, which includes polymer composites technology, for future vehicle architectures. We, on the SPE Automotive Division Board of Directors, believe that plastics and composite materials will be key enablers for the development of safe and sustainable transportation, and we applaud the efforts of the FC&FP for ushering in polymer-based technologies for advanced-propulsion systems and lightweight, durable, safe vehicle structures.”

Maria Ciliberti, Global Automotive director, Ticona, and the SPE Automotive Innovation Awards chair for 2008 added, “We selected FC&FP as the recipient of our 2008 Executive Leadership Team Award, for the group’s vision in making plastics and composites top research priorities within the materials arena. From lightweight, durable, sustainable materials for clean-sheet vehicle architectures to membrane separators for advanced batteries, and plastics for building the hydrogen infrastructure needed for a safe and convenient fuel-delivery system, plastics and polymer composites have already proven to be enabling technologies for alternative powertrains, ranging from gas-electric hybrids to advanced battery and hydrogen vehicle technologies.”

The honor will be accepted by a team representing the U.S. Department of Energy (DOE) and the United States Council for Automotive Research LLC (USCAR), through which the three U.S. automakers – Chrysler LLC, Ford Motor Co. and General Motors Corp. – participate in the FC&FP. Those named on the award include:

Joseph A. Carpenter, Jr., Technology Development manager for the U.S. DOE’s Lightweighting Materials effort, part of the FreedomCAR and Fuels Partnership;
CHARLES DAVID (DAVE) WARREN, program manager - Transportation Composites at Oak Ridge National Laboratory and field technical manager - Composites in the Automotive Lightweighting Materials effort, a part of the FreedomCAR Initiative of the DOE’s Office of Vehicle Technologies;

LIBBY BERGER, staff researcher – Materials & Processes Laboratory, R&D Center, General Motors Corp. and a member of the Automotive Composites Consortium’s (ACC’s) Processing Group, and Materials Group, for which she is a past chair;

DAN HOUSTON, technical specialist, Ford Motor Co. and chair - USCAR ACC’s Materials Work Group; and

KHALED SHAHWAN, engineering specialist - Experimental & Computational Mechanics Department, Scientific Laboratories, Chrysler LLC and chair - USCAR ACC’s Composites Energy Management Group.

Accepting the award on behalf of USCAR will be Chrysler’s FreedomCAR director and member of the USCAR Leadership Group, ANN SCHLENKER, Chrysler LLC, director of Advanced Vehicle Engineering & Alliances. Accepting the Award on behalf of the Department of Energy is PATRICK DAVIS, acting program manager, Vehicle Technologies, Energy Efficiency & Renewable Energy, U.S. DOE.

Continues Cole, “A national energy portfolio that includes significant use of hybrid powertrains, advanced battery technology including plug-in hybrids, hydrogen fuel, and fuel-cell applications will make lasting contributions to America’s future mobility needs and reduce climate-change impacts through the significant reduction of CO2. The DOE’s funding and fuel-validation programs are extremely important technology-development efforts and therefore we felt worthy of recognition.”

Established as the FreedomCAR Partnership in 2002 and expanded to include fuel companies in 2003, the FreedomCAR and Fuel Partnership is a public-private partnership between the U.S. DOE; five major energy producers - BP America, Chevron Corp., ConocoPhillips, ExxonMobil Corp., and Shell Hydrogen LLC; USCAR, whose members include Chrysler LLC, Ford Motor Co. and General Motors Corp.; and now, two major utilities: DTE Energy and Southern California Edison.

Founded in 1992, USCAR is the umbrella organization for collaborative research among Chrysler, Ford and GM. The goal of USCAR is to further strengthen the technology base of the U.S. auto industry through cooperative research and development.
Hood Assembly with Dual-Weave Carbon Fiber
2008MY General Motors Corp.
Chevrolet® Corvette® ZR1 Sports Car

This unique signature hood was designed for high visual impact by using the auto industry's first see-through, bonded polycarbonate “window” and special stabilized, fully exposed, visible carbon fiber weave (meeting Class A requirements) on the underside of the hood. The assembly also offers significant mass reduction vs. SMC or metal, and meets FMVSS frontal crash requirements.

System Supplier: Plasan Carbon Composites
Material Processor: Plasan Carbon Composites
Material Supplier: ETS and ACG
Resin: Carbon Fiber Prepreg & Epoxy
Tooling Supplier: Models and Tools

Exposed-Weave Roof Assembly
2008MY General Motors Corp.
Chevrolet® Corvette® ZR1 Sports Car

A proprietary, UV-stabilized and color-corrected clear coat was developed to prevent yellowing of exposed-weave carbon fiber composite in this highly visible, Class A roof assembly with exacting aesthetic requirements. Replacing an earlier thermoplastic roof assembly, the bonded advanced composite version is lighter (lowering the vehicle's center of gravity), has lower CLTE, and is more robust, providing improved rollover protection.

System Supplier: Plasan Carbon Composites
Material Processor: Plasan Carbon Composites
Material Supplier: ETS and ACG
Resin: Carbon Fiber Prepreg & Epoxy
Tooling Supplier: Models and Tools

Adjustable Carbon Fiber Rear Wing
2008MY Chrysler LLC Dodge® Viper® ACR Sports Car

Replacing a blow-molded thermoplastic, this advanced composite wing offers a high degree of aerodynamic stability (900 lb of down force) at minimum weight (6 lb / 2.7 kg) even at 200 mph / 322 kph, improving handling and braking. Down force is adjustable. Design uses a coreless construction and high-impact, exposed carbon fiber weave in a special UV-stabilized epoxy matrix.

System Supplier: Plasan Carbon Composites
Material Processor: Plasan Carbon Composites
Material Supplier: ETS
Resin: Carbon Fiber Prepreg & Epoxy
Tooling Supplier: Prefix

Congratulations!

AkzoNobel and Soliant would like to congratulate our partners Plasan, GM and Chrysler for the innovative use of our Clearcoat on Carbon Fiber and to Hyundai for the innovative use of Fluorex® Bright Film on the world's first grille with “the new chrome”.

AkzoNobel Coatings, Inc.
Automotive Plastic Coatings
1845 Maxwell Street
Troy, MI 48084
248.637.5200
www.akzonobel.com
www.paintfilm.com

Thank You for letting us shine with you.
Plasan Carbon Composites is the only dedicated Tier 1 Carbon Fiber Component supplier to the automotive industry. We are the leading manufacturer in cost-competitive Carbon Fiber Class A and structural body parts and assemblies.

Ford Motor Company is being honored tonight with the SPE Vehicle Engineering Team Award for the automaker’s significant use of innovative plastics content on the new Flex™ cross-over utility vehicle (CUV). The Vehicle Engineering Team Award recognizes the technical achievements of teams comprised of automotive designers and engineers, tier integrators, materials suppliers, toolmakers, and others whose work – in research, design, engineering, and/or manufacturing – has led to significant integration of polymeric materials on a notable vehicle. Ford’s Vice-President of Engineering, Paul Mascarenas, who oversees all engineering standards for car, truck, SUV, and cross-over utility vehicles for the company’s Ford®, Lincoln®, and Mercury® brands, will accept the award on behalf of the team.

The Ford Flex CUV features a number of innovative plastics applications, many of them industry-firsts, such as the: new Capless Refueling System with Mis-Fuel Inhibitor; industry’s largest Satin-Chrome Decklid Appliqué; Injection-Molded Crushable Armrest with Decorative Grab Handle; Integrated Refrigerator / Rear-Floor Console; Integrated Floor Shifter / Front Console with a Recycled SMA Structure; Integrated Roof Shade / Auxiliary AC Duct / Headliner Reinforcement; new Rear-Footwell Ambient Lighting; Long-Glass Polypropylene used in Overhead Consoles; Integrally Molded Energy Absorption Features; use of Expanded-Polypropylene Head Restraint Core; and new Acrylic Appliqués with SecureCode™ Invisible Keypad.

Speaking about the award, Mascarenas said, "We are delighted that Ford Motor Company has been recognized in this way by this Society of Plastics Engineers’ award. The whole team worked tirelessly to bring innovative thinking to the Flex project and this honor for the entire engineering team is recognition of the hard work that has gone into the Flex."
Search. Discover. Select.
If you are evaluating resins for an existing project, or examining choices for a part under development, PLASPEC Global can help direct you to the right material for your application.

www.ptonline.com/plaspec

PLASPEC Global offers processors, part designers and OEMs the most current and highest-quality plastics materials selection and applications data available worldwide.

FEATURES AND ADVANCED FUNCTIONALITY:
- The most up-to-date ASTM and ISO data
- Single- and multi-point data
- Direct materials comparison
- Advanced data sort and output options (curve charts, etc.)
- Application case studies
- Tradename directory
- Plastics literature
- Supplier information

PLASPEC BASIC
Free unlimited datasheet searches.

PLASPEC COMPLETE
Access to the entire data center and advanced functionality, all for ONLY $99 a year.
Twin-Sheet Blow-Molded Fuel System
2009MY BMW AG BMW® Series 7 Sedan

System Supplier: ContiTech Vibration Control GmbH
Material Processor: ContiTech Vibration Control GmbH
Material Supplier: BASF
Resin: Ultramid® A3WG10 CR PA 66 GF 50
Tooling Supplier: Hasselbeck

For the first time, a highly loadable, thin-walled, lightweight torque reaction mount was achieved in a plastic design. The design was optimization via integrative simulation, which combined process simulation, material modeling, and structural analysis. All simulations have been validated by comprehensive lab and vehicle testing.

System Supplier: Inergy Automotive Systems
Material Processor: Inergy Automotive Systems
Material Supplier: LyondellBasell, Kurrary & Mitsui
Resin: Lupolen® 4261 HDPE
Tooling Supplier: Inergy Automotive Systems

Twin-sheet blow molding offers the advantages of an extrusion blow-molded fuel system with the design flexibility of a half-shell process. Sheets extrude between a central core and the mold. Core actions attach the components during initial sheet forming. The empty core is withdrawn and the mold is closed to join the formed sheets. Fuel tanks formed via this process meet the strictest PZEV emissions requirements, while also providing higher tank capacity, lower emissions, weight and cost reductions, and elimination of post-mold operations.

Infraweld® Headliner Assembly
2009MY Ford Motor Co. Ford® F-Series® Pickups

System Supplier: TrimQuest
Material Processor: Oakwood Safety Plastic
Material Supplier: LyondellBasell & Amoco
Resin: Pro-Fax® SV152 PP
Tooling Supplier: Extol Inc.

Eliminating the mess, weight, and cost of hot-melt glue to attach various components (e.g. energy absorbers, wire harnesses, moon roof trim rings, console retainers, NVH pads, pig tails) to the backside of headliners, this process uses a halogen infrared light source and pressure to attach components quickly (4 sec). The weld that is formed is strong and of higher temperature than hot-melt glue, making the headliner more heat tolerant at a 10-15% weight and average $3 USD / vehicle cost reduction, while also improving recyclability.
This chrome-look front grille is achieved in a single shot thanks to 6 pre-forms of bright paintfilm, eliminating post-mold chrome plating or painting and providing a more durable part with fewer warranty issues and better resale value. Cost and weight are reduced, there are no environmental compliance issues (as with plating or painting), less energy is used, and this product is 100% recyclable.

Air-Extractor Grille
2009MY Ford Motor Co. Lincoln® MKS Sedan

System Supplier: Intier Automotive Inc.
Material Processor: SPI
Material Supplier: Ticona
Resin: Hostaform® LG450UV-D Acetal
Tooling Supplier: N/A

This is the largest air-extractor grille in the industry (31 in. / 780 mm long) and was a significant molding challenge due to the complexity of the grille's geometry and size. The injection-molded grille also had stringent appearance and performance requirements for this luxury-vehicle application. Special resin development allowed the successful molding of this Class A trim component, saving approximately $2 USD / vehicle and $40,000 USD in tooling.

Front Grille with Insert-Molded Bright Paintfilm
2008MY Hyundai Motor Co.
Hyundai® Avante® Compact Car

System Supplier: ECOplastics
Material Processor: Hanguk Mold
Material Supplier: LG Chemical
Resin: ASA
Tooling Supplier: MOTOST

This chrome-look front grille is achieved in a single shot thanks to 6 pre-forms of bright paintfilm, eliminating post-mold chrome plating or painting and providing a more durable part with fewer warranty issues and better resale value. Cost and weight are reduced, there are no environmental compliance issues (as with plating or painting), less energy is used, and this product is 100% recyclable.
WARD'S Auto Interiors Show

Save The Date:
May 20-21, 2009

New Location:
Rock Financial Showplace, Novi, MI

www.autointeriors.com
Bring us your bold goals

“Best parts. Fastest cycles.”

More than one billion parts worldwide are produced every day using Husky hot runners. Our customers are in the medical, technical, closures, packaging, consumer electronics and automotive industries. For over 45 years we have supplied hot runner technologies that produce the best parts at the fastest cycles.

Visit www.husky.ca or call 1-800-516-9590.
Thermoformed EA Countermeasures in Recycled Resin
2008/2009MY Various

System Supplier: TrimQuest
Material Processor: Oakwood Safety Plastic
Material Supplier: LyondellBasell & Amoco
Resin: SV152, 6015 & 3045
Tooling Supplier: Oakwood Safety Plastic

This 100% reuse of edge trim and offal from the energy-absorption (EA) countermeasures produced in the thermoforming process minimizes waste and reduces product costs without degradation of performance in this important head- and side-impact safety application. No waste is sent to the landfill now, which saves $85,000 USD / annually.

Styrofoam EAs for Head Impact
2008MY Ford Motor Co. Ford® Focus® Compact Car

System Supplier: Grupo Antolin North America
Material Processor: N/A
Material Supplier: Dow Automotive
Resin: Impaxx® 300 PS
Tooling Supplier: N/A

This was the best-in-class, low-cost energy-absorption (EA) countermeasure based on zero tooling, piece price, and time to market. Foamed styrene is extruded into blocks, then wire cut into complex shapes, providing significant weight (25% lighter), cost, and timing benefits vs. competitive products.
Integrally Molded Energy Absorption Features
2008MY Ford Motor Co. Ford® Flex™ CUV

The patent-pending injection-molded, high-impact PP door-trim substrate’s design features integrally molded, energy-absorbing rib structures that replace pelvic-safety foam bolsters, improving occupant protection during side-impact events while reducing piece price, tooling costs, and assembly costs. The vehicle’s 5-Star side-impact performance is due in part to the design of this innovative door-trim substrate.

System Supplier: Johnson Controls
Material Processor: Johnson Controls
Material Supplier: LyondellBasell
Resin: Basell® SG-702 PP
Tooling Supplier: Trident Tooling

EPP Head Restraint Core for FMVSS-202a
2008 & 2009MY Ford Motor Co. Various Vehicles

This patent-pending safety application is the first time an expanded-polypropylene (EPP) foam head-restraint insert has been used to meet FMVSS-202a static requirements in a headrest. Local depressions in the core are used to reduce permanent set during FMVSS-202 “backset” and “height” retention testing. A unique snap-fit design is formed without the need for slides or lifters in the low-cost steam-chest tooling, providing a secure fit to the head-restraint rod and ease of assembly. The core’s unique geometry allows for a large number of cavities (32) to be used in the mold, helping increase productivity and reduce piece costs. The application provides significant piece-price and tooling avoidance savings vs. injection- or blow-molded plastic cores.

System Supplier: Windsor Machine Group
Material Processor: Tegrant Corp.
Material Supplier: JSP
Resin: Arpro® EPP
Tooling Supplier: Tegrant Corp.
This year’s winning nomination for the SPE Automotive Innovation Awards Hall of Fame is believed to represent the earliest use of polyurethane foam in automotive seating and was featured on the rear seat cushion of the 1957MY Desoto and Chrysler 300 2-door hardtops by then Chrysler Corp. To even be considered for the this award, a part must have been in continuous service in some form for 15 years or more and preferably have been widely adapted within the automotive or ground-transportation industry.

Produced by Reynolds Chemical Products of Ann Arbor, Mich. using flexible slab-stock urethane foam supplied by then Union Carbide (whose urethane business was subsequently acquired by Bayer MaterialScience), the urethane seat topper replaced cotton batting and latex-rubber sponge products. As such, it provided a 50-60% weight and 10-20% piece-cost savings plus lower manufacturing and assembly costs while also increasing seat comfort, durability, flexibility, and breathability for consumers. Flame-retardant materials were used for safety.

Natural (latex) rubber foam had been the cushioning material of choice for automotive seating from the early 1930s through the late 1950s. However, it had processing as well as other challenges. For example, it had a long cure (vulcanization) cycle (30 minutes in the mold) and was energy intensive to process. The complicated, multistep process began with material blending, and then metering the latex rubber into the tool. The tool was next sealed and a vacuum was pulled to expand the material. Then the tool temperature was dropped to -30°C / -22°F in order to “freeze” the material. After it had solidified, carbon dioxide gas was passed through the latex foam to raise the temperature in the mold to 115°C / 230°F, at which point the mold was opened and the material was stripped from the tool. Post-mold operations included washing the latex rubber to remove impurities, squeezing excess water out, and then passing it through a series of dryers to remove any remaining moisture. This was followed by cutting parts from a larger block of foam - all before seats could be built. Given the challenges of working with these materials, a highly skilled (and therefore more costly) labor force was required, which added to costs for the final product. Additionally, latex rubber had a distinct odor and provoked allergic reactions in some individuals.

In contrast, polyurethane foam - produced via a chemical reaction between isocyanate and polyol - had a much shorter molding cycle of 10-12 minutes with little post-mold cure requirements. Demolding was also fast and the parts could be handled right away. Furthermore, urethane foam parts were lighter than those made from latex foam rubber, achieving densities of 20-60 kg / m³ (1-4 lb / ft³) vs. 80-130 kg / m³ (5-8 lb / ft³) for the older technology. And urethane was non-allergenic and odorless once cured. Just like latex rubber, it could be welted, stitched, pulled/stretched, sewn, nailed, and cut using conventional tools.
CONGRATULATIONS TO THE WINNERS OF THE

38TH ANNUAL SPE® AUTOMOTIVE INNOVATION AWARDS COMPETITION

Each issue of High-Performance Composites and Composites Technology magazines feature the latest information on the design and use of composite materials in automotive and transportation applications – as well as many other markets. We feature in-depth articles and specific case studies, based on first-hand interviews, that give you detailed explanations of materials and manufacturing processes. Our mission is to promote the use of composite materials in transportation by providing timely and useful hands-on technical information. News, commentary, upcoming events and a marketplace of services are also included in each issue.

Let our expert editors and writers inform you and your team about lightweight, high-performance composite materials.

Sign up today for your free copy—
www.compositesworld.com/subscribe
**The Hall of Fame Award** is given annually for an application that has been in continuous use for 15 years or more, and has made a significant and lasting contribution to the application of plastics in automobiles.

<table>
<thead>
<tr>
<th>YEAR RECOGNIZED</th>
<th>OEM</th>
<th>APPLICATION</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>General Motors</td>
<td>Emissions Control Canister</td>
<td>Nylon</td>
</tr>
<tr>
<td>1984</td>
<td>General Motors</td>
<td>Front-Fender Wheel Liner</td>
<td>PP</td>
</tr>
<tr>
<td>1985</td>
<td>Chrysler</td>
<td>Disc-Brake Piston</td>
<td>Phenolic</td>
</tr>
<tr>
<td>1986</td>
<td>Chrysler</td>
<td>Heater Housing</td>
<td>PP</td>
</tr>
<tr>
<td>1987</td>
<td>General Motors</td>
<td>Grill-Opening Panel</td>
<td>SMC</td>
</tr>
<tr>
<td>1988</td>
<td>Ford Motor Company</td>
<td>Windshield Interlayer</td>
<td>PVB</td>
</tr>
<tr>
<td>1989</td>
<td>AMC</td>
<td>Battery Case</td>
<td>PP</td>
</tr>
<tr>
<td>1990</td>
<td>General Motors</td>
<td>Transverse Leaf Spring</td>
<td>FRP-Epoxy</td>
</tr>
<tr>
<td>1991</td>
<td>General Motors</td>
<td>Tilt Steering-Wheel Centering Sphere</td>
<td>Acetal</td>
</tr>
<tr>
<td>1992</td>
<td>General Motors</td>
<td>Composite Exterior Body Panels</td>
<td>SMC</td>
</tr>
<tr>
<td>1993</td>
<td>General Motors</td>
<td>Front/Rear Bumper Covers</td>
<td>RIM-PUR</td>
</tr>
<tr>
<td>1994</td>
<td>Ford Motor Company</td>
<td>Headlamp Assembly</td>
<td>Polycarbonate</td>
</tr>
<tr>
<td>1995</td>
<td>General Motors</td>
<td>Guide-Flex Energy Absorbers</td>
<td>EVA</td>
</tr>
<tr>
<td>1996</td>
<td>General Motors</td>
<td>Front Fenders</td>
<td>RIM Urethane</td>
</tr>
<tr>
<td>1997</td>
<td>Ford Motor Company</td>
<td>Transmission Seal</td>
<td>PPS</td>
</tr>
<tr>
<td>1998</td>
<td>Citroën</td>
<td>Fan Shroud</td>
<td>GF Nylon</td>
</tr>
<tr>
<td>1999</td>
<td>Ford Motor Company</td>
<td>Hydraulic Clutch Actuator</td>
<td>GF Nylon</td>
</tr>
<tr>
<td>2000</td>
<td>Volkswagen</td>
<td>Fuel Tank</td>
<td>HDPE</td>
</tr>
<tr>
<td>2001</td>
<td>General Motors</td>
<td>Instrument-Panel Retainer</td>
<td>GF SMA</td>
</tr>
<tr>
<td>2002</td>
<td>General Motors</td>
<td>Wiper-System Transmission Housing</td>
<td>Nylon</td>
</tr>
<tr>
<td>2002</td>
<td>General Motors &amp; Delphi</td>
<td>Mini-Wedge Latch and Door-Lock Actuator</td>
<td>Nylon</td>
</tr>
<tr>
<td>2003</td>
<td>General Motors</td>
<td>Expanded Polypropylene Foam, Dual-Density</td>
<td>PP</td>
</tr>
<tr>
<td>2003</td>
<td>General Motors</td>
<td>Energy Absorbing (EA) Bumper System</td>
<td>PC/ PBT</td>
</tr>
<tr>
<td>2004</td>
<td>Ford Motor Company</td>
<td>Bumper Box Beam</td>
<td>Nylon</td>
</tr>
<tr>
<td>2005</td>
<td>Porsche</td>
<td>Thermoplastic Intake Manifold</td>
<td>ABS</td>
</tr>
<tr>
<td>2006</td>
<td>General Motors</td>
<td>Front Grille</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(first thermoplastic parts for vehicle exterior)</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>Ford Motor Company</td>
<td>Radiator End Tank</td>
<td>Nylon 6/6</td>
</tr>
</tbody>
</table>
ACMA’s COMPOSITES+POLYCON has what you need to help your business thrive. With a focus on emerging markets, innovation, and ways to manage and grow your business, you will find education sessions and expert speakers that provide the knowledge you need.

Expect over 250 exhibitors with the services and products that can help you find new markets, expand sales and better manage your operations. Plus, unparalleled networking opportunities ensure plenty of time to exchange ideas with peers.

Take charge of your future with the knowledge, tools, products and services and contacts you’ll find at COMPOSITES+POLYCON.

Register today!

www.acmashow.org
<table>
<thead>
<tr>
<th>YEAR</th>
<th>PART NAME</th>
<th>OEM</th>
<th>MAKE/MODEL</th>
<th>RESIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Backlighting with Color- Converting Plastic</td>
<td>General Motors</td>
<td>Chevrolet Tahoe</td>
<td>Makrolon 2405 PC</td>
</tr>
<tr>
<td>2006</td>
<td>Blow-Molded Front- &amp; Rear-Bumper System</td>
<td>DaimlerChrysler</td>
<td>Jeep JK SUV</td>
<td>Safflex 610 MW - RXF TPO</td>
</tr>
<tr>
<td>2005</td>
<td>Composite In-Bed Trunk</td>
<td>Honda Motor Company</td>
<td>Ridgeline</td>
<td>SMC</td>
</tr>
<tr>
<td>2004</td>
<td>Door Trim with Integrated Acoustic Chamber and Subwoofer</td>
<td>Ford Motor Company</td>
<td>Mustang</td>
<td>GAPEX GF-PP</td>
</tr>
<tr>
<td>2003</td>
<td>smart™ Roadster Roof Module</td>
<td>DaimlerChrysler</td>
<td>2003 smart™ Roadster</td>
<td>Lexan SLX PC Copolymer</td>
</tr>
<tr>
<td>2002</td>
<td>Extruded Polymer Film Fascia</td>
<td>General Motors</td>
<td>2002 Dodge Neon</td>
<td>Formion Multi-Layer Ionomer</td>
</tr>
<tr>
<td>2001</td>
<td>Nano-Composite TPO</td>
<td>General Motors</td>
<td>Astro and Safari</td>
<td>HIFAX Nanocomposite DX277 AC TPO</td>
</tr>
<tr>
<td>2000</td>
<td>Controlled Energy Management Bumper Isolator</td>
<td>Ford Motor Company</td>
<td>Windstar</td>
<td>Paxon BA50-120 HDPE</td>
</tr>
<tr>
<td>1999</td>
<td>Fan Shroud and Reservoir Assembly</td>
<td>DaimlerChrysler</td>
<td>Dodge Dakota</td>
<td>PP</td>
</tr>
<tr>
<td>1998</td>
<td>“I“ Section Bumper Beam</td>
<td>Mitsubishi</td>
<td>1998 Galant</td>
<td>Minion PCR Reinforced PA</td>
</tr>
<tr>
<td>1997</td>
<td>“Carpet to Car Parts”</td>
<td>Ford Motor Company</td>
<td>All N.A. vehicles using nylon air cleaners</td>
<td>Taffan PP-GMT</td>
</tr>
<tr>
<td>1996</td>
<td>Structural Battery Tray</td>
<td>General Motors</td>
<td>1997 EV-1</td>
<td>Budd SMC</td>
</tr>
<tr>
<td>1995</td>
<td>Integrated Front-End System</td>
<td>Ford Motor Company</td>
<td>Taurus/ Sable</td>
<td>Ultramid Copolymer</td>
</tr>
<tr>
<td>1994</td>
<td>Thermoplastic Air Intake Manifold</td>
<td>General Motors</td>
<td>Northstar Engine</td>
<td>Polycatal-Ultraform N220DG5</td>
</tr>
<tr>
<td>1993</td>
<td>Front-Suspension Stabilizer Link</td>
<td>Ford Motor Company</td>
<td>1994 Taurus/ Sable</td>
<td>Azdel, Noryl, Taffan, PP, PU Foam</td>
</tr>
<tr>
<td>1991</td>
<td>Integrated Child’s Seat and Top Impact Pad</td>
<td>Chrysler</td>
<td>1992 Plymouth Voyager, Dodge Caravan</td>
<td>Pulse B250</td>
</tr>
<tr>
<td>1990</td>
<td>Exterior Door Panel</td>
<td>General Motors</td>
<td>1991 Saturn 2-Door and 4-Door</td>
<td>PPG, SMC/XMC</td>
</tr>
<tr>
<td>1989</td>
<td>Composite Wheel</td>
<td>Chrysler</td>
<td>1990 Shelby CSX</td>
<td>Noryl GTX 910</td>
</tr>
<tr>
<td>1988</td>
<td>Front Fender</td>
<td>General Motors</td>
<td>1989 Cadillac “C” (Deville &amp; Fleetwood)</td>
<td>SMC</td>
</tr>
<tr>
<td>1987</td>
<td>Quarter Panel Assembly - Sportside</td>
<td>General Motors</td>
<td>Truck and Bus</td>
<td>PMMA</td>
</tr>
<tr>
<td>1986</td>
<td>Quarter Window</td>
<td>General Motors</td>
<td>Pontiac Fiero</td>
<td>Polyvinyl Butyral/ PE Film</td>
</tr>
<tr>
<td>1985</td>
<td>Windshield with Anti-Lacerative Layer</td>
<td>General Motors</td>
<td>Cadillac</td>
<td>Vinylester/Graphite/ Glass</td>
</tr>
<tr>
<td>1984</td>
<td>Drive Shaft</td>
<td>General Motors</td>
<td>Truck</td>
<td>SMC, RIM, RRIM, &amp; TPO</td>
</tr>
<tr>
<td>1983</td>
<td>Exterior Body Panels</td>
<td>General Motors</td>
<td>Pontiac Fiero</td>
<td>SMC</td>
</tr>
<tr>
<td>1982</td>
<td>Tailgate Assembly</td>
<td>Ford Motor Company</td>
<td>Chevrolet Corvette</td>
<td>GF-Nylon</td>
</tr>
<tr>
<td>1981</td>
<td>Radiator-Core End Caps</td>
<td>General Motors</td>
<td>Truck</td>
<td>FRP-Epoxy</td>
</tr>
<tr>
<td>1980</td>
<td>Rear-Axle Leaf Spring</td>
<td>Ford Motor Company</td>
<td>Chevrolet Corvette</td>
<td>SMC</td>
</tr>
<tr>
<td>1979</td>
<td>Grille-Opening Panel Assembly</td>
<td>General Motors</td>
<td>CL-9000 Truck</td>
<td>SMC</td>
</tr>
<tr>
<td>1978</td>
<td>Bucket-Seat Frame</td>
<td>Ford Motor Company</td>
<td>Jeep</td>
<td>PP</td>
</tr>
<tr>
<td>1977</td>
<td>Instrument Panel</td>
<td>Ford Motor Company</td>
<td>Chevrolet Monza</td>
<td>Polycarbonate</td>
</tr>
<tr>
<td>1976</td>
<td>Fender Aprons</td>
<td>Ford Motor Company</td>
<td>Buick</td>
<td>RIM Polyurethane</td>
</tr>
<tr>
<td>1975</td>
<td>One-Piece Jeep Top</td>
<td>General Motors</td>
<td>American Motors</td>
<td>GF-PP</td>
</tr>
<tr>
<td>1974</td>
<td>Fascia and Rear Bumper Cover</td>
<td>General Motors</td>
<td></td>
<td>Phenolic</td>
</tr>
<tr>
<td>1973</td>
<td>Block-Heater Motor Housing</td>
<td>Ford Motor Company</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CATEGORY WINNERS
Full-Size Trophy (5x7 in.)  Quantity _____ @$195. ea  Category ________________  Application ________________
Replica Trophy (3x5 in.)  Quantity _____ @$110. ea  Category ________________  Application ________________

CATEGORY FINALISTS
Acrylic Desk Plaque  Quantity _____ @$110. ea  Category ________________  Application ________________

NOMINATION DISPLAY PLAQUES (available for ALL nominated parts)
7.5x10 in.  Quantity _____ @$15. ea  Category ________________  Application ________________

Note: Prices do not include shipping. You will be contacted after your order is received to confirm the application, quantity, and shipping costs.

Name: ______________________________________________________________________
Company: _________________________________  Division: _________________________
Company Address: ____________________________________________________________
City/State or Province/Postal Code: _______________________________________________
Phone: ____________________________________  Fax: _____________________________
Email: _______________________________________________________________________
Signature: ___________________________________________________________________
o  Bill my credit card       o  Invoice me at the address above
Total Amount Due: $ ________________
Credit Card Type: ________________  Credit Card Number: ___________________________
(Visa, MC, AMEX accepted)
Name on Card: _________________________________  Expiration Date: __________

FAX ORDERS TO +1.248.244.8925 • ATTN: PATRICIA LEVINE
All orders due by December 29, 2008

To order event photos, please contact Patricia at +1.248.244.8993 or send an e-mail to p.levine@yahoo.com for pricing and availability.
Division Officers & Executive Committee

CHAIR
Tom Pickett
General Motors Corp.

CHAIR-ELECT
Maria Ciliberti
Ticona

VICE-CHAIR
Tom Miller
BASF

PAST-CHAIR
Brian Grosser
Samsung Chemical USA

TREASURER
John Fialka
BASF

SECRETARY
Jay Raisoni
Inteva Products

DIVISION COUNCILOR
Nippani Rao
Retiree, Chrysler LLC

DIRECTORS EMERITUS
Josh Madden
Al Murray
Fred Schwab

Committee Chairpersons

INNOVATION AWARDS PROGRAM
Maria Ciliberti
Ticona

TECHNICAL PROGRAMS / ANTEC
Norm Kakarala
Inteva Products

MEMBERSHIP
Johanne Wilson
Ciba Corp.

NEWSLETTER SPONSORSHIP
Teri Chouinard
Intuit Group, LLC

GOLF OUTING
Fred Deans
Allied Composite Technologies

INTER-SOCIETY
Jackie Rehkopf
Exponent

AUTOMOTIVE COMPOSITES CONFERENCE
Peggy Malnati
Malnati & Associates

COMMUNICATIONS
Peggy Malnati
Malnati & Associates

EDUCATION
Monica Prokopyshen
SPE Automotive Division

Board of Directors

TO MAY 2009
Bonnie Bennyhoff
ExxonMobil Chemical

Fred Deans
Allied Composite Technologies

Peggy Malnati
Malnati & Associates

Mike Whiten
Ford Motor Co.

Don Lasell
AAR Composites, Inc.

TO MAY 2010
Suzanne Cole
Cole & Associates

Ed Garnham
SPE

Ron Price
Global Polymer Solutions

David Reed
Dave Reed Consulting LLC

Venkatakrishnan Umamaheshwari
SABIC Innovative Plastics

Gus Chen
Ticona

Mike Masserant
Ford Motor Company

TO MAY 2011
Kevin Pageau
Tegrant Corp.

Norm Kakarala
Inteva Products

Jackie Rehkopf
Exponent

Suresh Shah
Delphi Thermal & Interiors

Jay Raisoni
Inteva Products

Johanne Wilson
Ciba Corp.

Mark Lapain
Magna International
Connecting the Automotive Molding Community

Nearly 40% of the subscribers of IMM are involved in molding for the automotive industry. These readers stay on top of the design and manufacturing opportunities provided by plastics, whether it’s for underhood applications or automotive exteriors, with the expert content of IMM.

Become one of our informed readers and get connected to your fellow automotive molders.

Subscribe to Injection Molding Magazine today.

Visit www.immnet.com and click on Subscribe.

Looking to reach automotive molders with a marketing message? Injection Molding Magazine is your most targeted vehicle.

Contact: Patrick Lundy, publisher • 973/808-0494 • patrick.lundy@cancom.com
CONGRATULATIONS AWARD WINNERS
YOUR VISION IS 20/20

FROM THE
SPE® AUTOMOTIVE DIVISION

For more information on the event, this year’s winners, and our sponsors, please visit www.speautomotive.com/inno.htm
How do you nail the big idea again and again and again? We suggest surrounding yourself with plenty of like-minded people. Dial DuPont First at 1-800-441-0575 or visit plastics.dupont.com.

make a career out of innovation

The miracles of science

Copyright © 2005 DuPont. All rights reserved. The DuPont Oval Logo, DuPont™ and The miracles of science™ are registered trademarks or trademarks of DuPont or its affiliates.
The design and manufacture of automobiles has certainly gone global. Automotive design relationships, manufacturing locations, and joint ventures cross more borders than ever before. And the one magazine that provides a global perspective on the use of plastics/composites design and technology? Modern Plastics Worldwide.

Make sure you keep up with global technology solutions to worldwide automotive plastics/composites applications with a subscription to MPW. Become one of the many readers from 125 countries around the world that are in the know.

Visit www.modplas.com and click on subscribe.

Looking to reach automotive molders with a marketing message? Modern Plastics Worldwide is your most targeted vehicle.

Contact: Patrick Lundy, publisher • (973) 808-0494 • patrick.lundy@cancom.com
Looks That Thrill™

Combine High Performance, Cost Savings And Aesthetics For The Most Challenging Cockpit Interior Applications.

Reduce Costs With Molded-in-Color Polymers
Achieve metallic look, desired color or low-gloss appearance for trim parts without costly painting, plating or secondary finishing operations.

Reduce Weight With Structural Appearance Polymers
Simplify design and achieve first surface appearance with low-density, high-strength materials for structural components.

Improve Part Marking With Lasermarkable Polymers
Lasermarking provides a cost-effective and tamper-proof alternative to conventional printing, labeling or embossing methods. Get indelible images on low-gloss, high-gloss or 3-D surfaces.

Get 2 Times Weathering Resistance With UV Stabilized Polymers
Long-lasting parts and fabrics resist fading and cracking with resistance of 85 percent property retention for color and elongation at UV exposures of as much as 2000 kJ/m².

Meet Future Trends And Guidelines For Odorless Components
Reduce VOCs and lower carbon emissions with special grades that meet European and Japanese emission standards (JAMA).

- Designed for functionality, beauty and durability,
- Ticona engineering polymers look as good as they perform
  - Hostaform®/Celcon® acetal copolymer
  - Celanex® PBT
  - Celstran® LFRT
  - Riteflex® TPC-ET
  - Vandar® PBT alloy

To Learn More
Visit www.ticona.com/looksthatthrill or call: 1.800.833.4882
Ticona Engineering Polymers, 8040 Dixie Highway, Florence, KY USA 41042
The SPE Automotive Innovation Awards Gala would not exist without the gracious support of our sponsors, who underwrite the cost of this event. Hence, it is with great appreciation that we thank and acknowledge the contributions of the 2008 SPE Automotive Innovation Awards Gala sponsors and other patrons for making this show a success.

GALA & AFTERGLOW SPONSOR
Ticona

GOLD SPONSORS
American Chemistry Council
DuPont Automotive

SILVER SPONSORS
BASF
Inteva Products
Nova Chemicals
Plasan Carbon Composites
SABIC Innovative Plastics

BRONZE SPONSORS
A. Schulman
ABC Group
AkzoNobel
Chevron Phillips
CML Innovative Technologies
ExxonMobil Chemical
Faurecia
Husky Injection Molding Systems Ltd.
JSP
LyondellBasell
Samsung Chemical USA, Inc.
TrimQuest

ADVERTISING SPONSOR
Evonik Cyro LLC

MEDIA / ASSOCIATION SPONSORS
American Composites Manufacturer’s Association
Automotive Design & Production Magazine
Automotive NewsWire
Composites Manufacturing Magazine
Composites Technology Magazine
Composites World Weekly
High-Performance Composites Magazine
Injection Molding Magazine
Modern Plastics Worldwide Magazine
Plastics Technology Magazine
Polymotive Magazine
Rubber World Magazine
Ward’s AutoWorld Magazine