



FOR IMMEDIATE RELEASE: (11/08/08)

Media Contacts:

Maria Ciliberti, '08 SPE Innovation Awards Chair
Ticona
Phone: +1.248.252.4421
eMail: awards-chair@speautomotive.com

Peggy Malnati, SPE Auto. Div. Comm. Chair
Malnati & Associates
Phone: +1.248.592.0765
eMail: media@speautomotive.com

FIRST URETHANE SEATING TO BE RECOGNIZED BY HALL OF FAME HONORS AT SPE[®] AUTOMOTIVE INNOVATION AWARDS

TROY, (DETROIT) MICH. – The Automotive Division of the Society of Plastics Engineers (SPE[®]) International today announced the *Hall of Fame* winner for the 38th-annual **SPE Automotive Innovation Awards Competition**, the oldest and largest parts competition in the automotive and plastics industries. To even be considered for the *Hall of Fame 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. This year's winning nomination is believed to represent the earliest use of polyurethane foam in automotive seating and was featured on the rear seat of the 1957MY Desoto and Chrysler 300 2-door hardtops by then Chrysler Corp.

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.

-more-

SPE Hall of Fame Award Goes to First Urethane Seat Cushions
2-2-2-2

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.

John Reynolds, Materials Development specialist at Chrysler LLC (and no relation to the original urethane molder of the same name) said, “Predictions were made in 1957 that polyurethane foam would capture a large share of the automotive cushioning market in the future, and history has proven those predictions to be true. This extremely versatile and resilient material has stood the test of time.”

Nippani Rao, supervisor – Exterior, Chassis, & Powertrain Materials, Chrysler LLC and an SPE Automotive Division board member who helped select this year’s *Hall of Fame* winner added, “Flexible urethane foam not only has had a remarkable impact on automotive seating over the last 50 years, but it has similarly transformed the furniture, aerospace, industrial, and consumer markets as well. I see no reason for this not to continue for the next 50 years, if not longer.”

-more-

SPE Hall of Fame Award Goes to First Urethane Seat Cushions
3-3-3-3

The Hall of Fame Award will be bestowed on Nov. 20, 2008 at SPE's annual **Automotive Innovation Awards Gala** at Burton Manor (www.Burtonmanor.net) in Livonia, Mich. At 5:30 p.m. the main exhibit area will open for general admission and guests can review this year's **Automotive 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 begins at 7:00 p.m. For those who wish to extend merrymaking and networking activities, the ever-popular *Afterglow* – also sponsored by Ticona – will run from 9:00-11:00 p.m.

The mission of SPE International is to promote scientific and engineering knowledge relating to plastics worldwide and to educate industry, academia, and the public about these advances. SPE's Automotive Division is active in educating, promoting, recognizing, and communicating technical accomplishments for all phases of plastics and plastic based-composite developments in the global transportation industry. Topic areas include applications, materials, processing, equipment, tooling, design, and development.

For more information about the **Automotive Innovation Awards Competition and Gala** or to download nomination forms and rules, visit the SPE Automotive Division's website at www.speautomotive.com/inno.htm , or contact the group at +1.248.244.8993, or write SPE Automotive Division, 1800 Crooks Road, Suite A, Troy, MI 48084, USA. For more information on the Society of Plastics Engineers International or other SPE events, visit the SPE website at www.4spe.org, or call +1.203.775.0471.

#

® SPE is a registered trademark of the Society of Plastics Engineers International. All other trademarks are the property of their owners.



FOR IMMEDIATE RELEASE: (11/08/08)

Media Contacts:

Maria Ciliberti, '08 SPE Innovation Awards Chair
Ticona
Phone: +1.248.252.4421
eMail: awards-chair@speautomotive.com

Peggy Malnati, SPE Auto. Div. Comm. Chair
Malnati & Associates
Phone: +1.248.592.0765
eMail: media@speautomotive.com

TROY, (DETROIT) MICH. – The Automotive Division of the Society of Plastics Engineers (SPE®) International today announced the **Hall of Fame** winner for the 38th-annual **SPE Automotive Innovation Awards Competition**. This year's winning nomination is believed to represent the earliest use of polyurethane foam in automotive seating and was featured in the rear seat cushion of the 1957MY Desoto and Chrysler 300 (shown here) 2-door hardtops by then Chrysler Corp.

#

® SPE is a registered trademark of the Society of Plastics Engineers International. All other trademarks are the property of their owners.

ATTENTION EDITORS: HIGH-RESOLUTION DIGITAL PHOTOGRAPHY AVAILABLE UPON REQUEST.



FOR IMMEDIATE RELEASE: (11/08/08)

Media Contacts:

Maria Ciliberti, '08 SPE Innovation Awards Chair
Ticona
Phone: +1.248.252.4421
eMail: awards-chair@speautomotive.com

Peggy Malnati, SPE Auto. Div. Comm. Chair
Malnati & Associates
Phone: +1.248.592.0765
eMail: media@speautomotive.com

TROY, (DETROIT) MICH. – The rear seat cushion of the 1957MY Desoto and Chrysler 300 (shown here) 2-door hardtops by then Chrysler Corp. is believed to represent the first use of polyurethane (PUR) foam in automotive seating. Urethane replaced latex foam rubber, which had dominated seat cushioning for over 30 years, providing much faster processing, lower seating costs, better passenger comfort, and greater durability. Additionally, urethane foam is non-allergenic and does not have an odor once cured vs. natural rubber.

#

® SPE is a registered trademark of the Society of Plastics Engineers International. All other trademarks are the property of their owners.

ATTENTION EDITORS: HIGH-RESOLUTION DIGITAL PHOTOGRAPHY AVAILABLE UPON REQUEST.