



FOR IMMEDIATE RELEASE: 30 October 2012

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CHRYSLER GROUP LLC'S 2013 MY SRT VIPER® SUPERCAR NAMED SPE VEHICLE ENGINEERING TEAM AWARD WINNER

TROY, (DETROIT) MICH. – For the second year in a row, a vehicle from Chrysler Group LLC has been named the *Vehicle Engineering Team Award* (VETA) winner by the *Automotive Division of the Society of Plastics Engineers (SPE®)* as part of the group's 42nd-annual *Automotive Innovation Awards Competition*, the oldest and largest recognition event in the automotive and plastics industries. The 2012 VETA winner is the 2013 model year (MY) SRT Viper® supercar from Chrysler Group LLC's Street and Racing Technology (SRT) brand. Key members of the Chrysler Group team and its suppliers will accept the award at the *SPE Automotive Innovation Awards Gala* on **November 7, 2012**, at [Burton Manor](#) in Livonia, Mich.

VETA recognizes the technical achievements of entire 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. This is the sixth time in nine years that the award has been presented. The first winner was Porsche AG for the 2004 MY Porsche® Carrera GT supercar. Ford Motor Co. won in three successive years with, respectively, its 2009 MY Ford® Flex™ cross-over-utility vehicle (CUV), 2010 MY Ford Taurus® sedan, and 2011 MY Ford Explorer® sport-utility vehicle (SUV). Last year's winners were the 2011 MY Chrysler® 200 and Dodge® Avenger® mid-size sedans, both of whose interiors were developed and launched as part of vehicle facelifts in just over a year through joint work by Chrysler Group and its interiors supplier, Faurecia.

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According to Mike Shinedling, Viper engineering launch manager, SRT Engineering, at Chrysler Group, "The *Viper* has a long tradition of raising the bar on plastics and composites innovation. Historically, *Vipers* have been 'bare-bones/no-frills' sports cars – something that was acceptable to our most ardent, hard-core customers, but not all potential buyers appreciated. In fact, many loyal *Viper* customers had been requesting more amenities and features on our next vehicle and I'm happy to say our team rose to the challenge. The new 2013 SRT *Viper* is a performance machine that takes a quantum leap forward by offering world-class levels of feature content, interior trim, and exterior finish, and it does so at a significant weight savings. Plastics and composites were key enablers in creating our most outstanding vehicle to date while directly lowering vehicle mass approximately 100 pounds (45 kilograms)."

Key features of the new vehicle directly enabled by polymeric materials include:

- ***Extensive use of composites on exterior body panels (representing more than 50% of the vehicle's skin):*** epoxy-matrix carbon fiber prepreg (visible fabric weave on surface from [Umeco plc / Cytec Industries](#) and unidirectional structural layers from [Toray Carbon Fibers Americas, Inc.](#)) were used to mold the enormous clamshell hood/fender module as well as the structural roof (which meets Federal requirements for roof crush) and liftgate by [Plasan Carbon Composites](#) using vacuum bag/autoclave cure. Inner and outer panels are bonded with structural polyurethane (PUR) adhesives from [Dow Automotive](#) (roof) and [Ashland Inc.](#) (hood/fenders and liftgate). Exterior panels are all painted, but hood and liftgate inner panels feature polished, exposed-weave carbon composite. Replacing previous sheet-molding compound (SMC) and metal provided a mass savings of 73 pounds/33 kilograms – a 43% weight reduction vs. equivalent parts on the previous *Viper* supercar – helping the team lower the vehicle's center of gravity, which in turn improves handling and cornering, and improves stability during braking.
- ***Thermoplastic liftgate 'widow's peak' outer panel:*** this Class A, injection-molded polycarbonate/acrylonitrile butadiene styrene (PC/ABS, from Dow Automotive) outer panel is adhesively bonded with PUR adhesive from Ashland to the carbon composite inner panel produced by Plasan to provide stowage for satellite and navigation antennae to ensure a clean exterior appearance. The PC/ABS widow's peak is painted in-line with the rest of the vehicle exterior and is supplied by [A.P. Plasman](#) (who also supplies other injection-molded thermoplastic exterior trim components). Legna Inc. also supplied injection-molded thermoplastic trim components for the vehicle's exterior.

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- **Composite windshield frame:** SMC (with glass and carbon fiber-reinforced thermoset polyester matrix) was used to compression molded the vehicle's front windshield frame/surround. This hybrid composite material is approximately 5 pounds/2.3 kilograms lighter than windshield frames on typical cars yet offers improved stiffness, consolidates 10 previous parts into 2 moldings, and contributes to roof-crush protection. [Quantum Composites/The Composite Group](#) compounds the material and molds the windshield surround/frame as well as door surrounds and front splash shields (also in SMC).
- **Thermoplastic bumper beams:** [NetShape International](#) produces front and rear bumper beams that are injection molded from unreinforced polycarbonate/polybutylene terephthalate (PC/PBT) thermoplastic alloy from [SABIC](#). The complex design consolidates multiple functions and components including the beam itself, the energy absorbers (EAs), insert-molded bracketry, and brake ducts. Front and rear bumper fascias were supplied by [Romeo RIM](#), who also produces rear quarter panels and rear appliqué, all in reinforced-reaction-injection molded (RRIM) polyurethane supplied by [Bayer MaterialScience](#).
- **Composite trunk pan/rear clip:** conventional and low-density glass-reinforced polyester-matrix SMC from Ashland were used by [Magna International Inc.](#) to compression mold the vehicle's trunk pan/rear clip, which provides dimensional structure for the entire rear end of the car while lowering weight and tooling costs and increasing storage in the same packaging space. Parts consolidation, always a strong benefit of polymeric materials, enabled component count to be reduced from 15 parts on previous metal designs to 2 in the new module, which incorporates a battery tray, water management, roof attachments, and several brackets.
- **Composite seat structures:** [Novation SpA](#) used resin-transfer molded (RTM'd) vinyl-ester resin (supplied by NOVIA) that is reinforced with glass, carbon, and aramid fibers to replace conventional steel-frame seats for a weight savings of 3 pounds/1.4 kilograms even with the addition of height-adjustment functionality. The new seats also improved comfort and interior cockpit space. The painted Class A structure, assembled by tier-1 supplier, [Sabelt SpA](#) is visible on the back side of the seats, adding a high-tech look and feel to the vehicle's interior.
- **Plastics-intensive instrument cluster:** plastic materials were a critical enabler for the innovative thin-film transistor (TFT) overlay/bezel on the instrument cluster supplied by [Magnetti Marelli SpA](#). The 3-dimensional, multilayered technical display overlay combines a digital tachometer and 5-gauge windows with customizable digital displays that eliminate the standard "flat display" look while enhancing readability and adding dimension, interest, and an integrated, performance-oriented look.

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- **Composite intake manifold:** a first on *Viper* sports cars, this 2-piece, injection-molded, heat-stabilized fiberglass-reinforced polyamide (PA) 6 resin from [BASF Corp.](#) and injection molded by [Sogefi SpA](#) saves 13 pounds/5.9 kilograms of mass, improves thermal efficiency, lowers cost, and increases horsepower because the plastic's inner surface is far smoother and stays cooler than the cast aluminum it replaced, ensuring greater air density and improved air flow.
- **Composite X-brace:** an optional polished, exposed-weave carbon composite engine-compartment X-brace (molded by Plasan using epoxy/carbon fiber fabric weave prepreg by Umeco and unidirectional structural prepreg from Toray) saves 9 pounds/4 kilograms vs. the standard extruded aluminum X-brace while providing equivalent stiffness and improved appearance. Both aluminum and carbon composite X-braces contribute nearly 50% to global vehicle torsional stiffness.
- **Exposed-weave carbon composites key to optional trim packages:** to maximize the high-tech look/"cool factor," owners will soon be able to order extra clear-coated/UV-stabilized exposed-weave carbon composites for their new supercar via three additional trim packages for Interior, Exterior, and Aero(dynamic) enhancements. Not only do these parts provide customization options for consumers and additional revenue for Chrysler Group and its dealers, but they save further weight.

Additional enabling technologies cited as helping produce the 2013MY SRT *Viper* supercar were material development for carbon fiber composites; improved computer-aided engineering (CAE) modeling to predict stiffness and crash performance; and developments that allow world-class levels of paint finish across multiple body parts produced in numerous material substrates. Several patent applications are also being considered for innovative design and materials combinations in the roof structure, the hood/fenders, the seat shells, and components in the aerodynamic enhancement package. The new vehicle has been nominated for *World Performance Car of the Year*.

The SRT *Viper* team will be honored at this year's **Automotive Innovation Awards Gala** that begins with the VIP Cocktail Reception at 4:30 p.m., generously sponsored by Ticona Engineering Polymers. At 5:00 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 awards program itself will last from 7:00-9:00 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.

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*SPE Honors 2013MY SRT Viper Supercar with Vehicle Engineering Team Award
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SPE's Automotive Innovation Awards Program is the oldest and largest competition of its kind in the world. Dozens of teams made up of OEMs, tier suppliers, and polymer producers submit nominations describing their part, system, or complete vehicle and why it merits the claim as the *Year's Most Innovative Use of Plastics*. This annual event typically draws 700 to 800 OEM engineers, automotive and plastics industry executives, and media. As is customary, funds raised from this event are used to support SPE educational efforts and technical seminars, which help educate and secure the role of plastics in the advancement of the automobile.

SPE's mission 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 aspects of plastics and plastic based-composites developments in the global transportation industry, including applications, materials, processing, equipment, tooling, design, and development.

For more information, see <http://speautomotive.com/inno> and <http://speautomotive.com/awa>.

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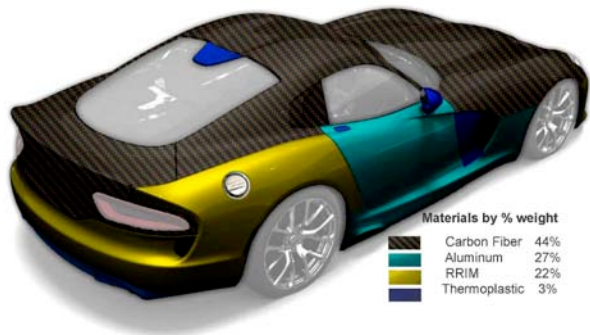
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Attn. Editors: Photo courtesy of Chrysler Group LLC. High-resolution digital photography available upon request. Numerous other formal and informal shots from prior years' **Automotive Innovation Awards Gala** are available for free download at <http://www.flickr.com/photos/speautomotive/collections/>.



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