



Progress beyond

Solvay wins SPE Automotive Award 2022

PPS connection ring, PPA crash panzer and PPS 48 volt inverter module honored for excellence in mechanical, thermal and electrical performance, cost-efficient production and sustainability

Brussels, October 18, 2022

Three mobility applications injection molded in high-performance specialty polymers from Solvay won The Society of Plastics Engineers (SPE) Central Europe prestigious 2022 Automotive Awards:

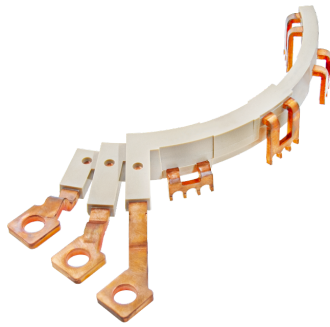
- Third place in the New Mobility Category: connection ring insert molded in [Ryton® PPS](#) to ensure high dielectric strength and volume resistivity at the connection of the stator windings to the traction motor as well as superior shock resistance and fatigue strength during thermal cycling.
- Third place in the Enabler Category: first-of-its-kind crash panzer module molded in [Amodel® PPA](#) to benefit from the outstanding strength-to-weight ratio and design flexibility of the polymer for part consolidation and reliable resistance to high mechanical loads and impact energies in the event of a crash.
- Third place in the Electronical Category: 48 volt inverter module, overmolded with [Ryton® PPS](#) combining a thermal expansion coefficient similar to that of the copper inserts in combination with high thermal shock resistance, practically zero water absorption.

"Our high-performance specialty polymers have enabled lightweighting, fuel and cost saving automotive applications for decades, and the innovation story continues as they are helping OEMs to accelerate the transition to e-mobility," says Georges Houtappel, Executive Vice President Transportation at Solvay. "We congratulate our customers who successfully commercialized these award winning applications by tapping the superior design freedom, performance characteristics and sustainability of our materials compared to incumbent competitors, including metals and thermosets."

The winners of the 21th SPE Central Europe Automotive Awards demonstrated the broad potential of Solvay's specialty polymers for meeting next-generation challenges of carmakers in terms of mechanical, thermal and electrical requirements. With particular regard to [e-mobility](#), Solvay is constantly working with leading OEMs and Tiers to develop new grades delivering the enhanced property profiles, cost-efficient processability and sustainability for innovative [e-motor](#), [power electronics](#) and [battery applications](#). In addition, the company's PPS and PPA base polymer production in the United States is using 100% renewable energy, supporting customers' efforts to minimize their scope 3 indirect CO₂ emissions.

Amodel® and Ryton® are registered trademarks of Solvay.

More details about Solvay awarded solutions



(Photo courtesy Solvay/LG-Magna)

New Mobility Category Award, 3rd Place

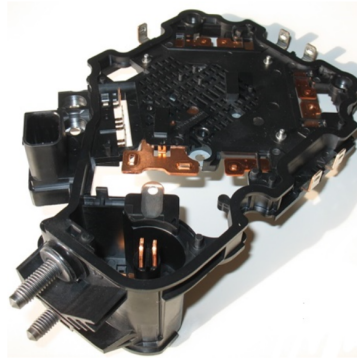
E-Motor Connection ring, designed by General Motors, assembled by LG Magna e-Powertrain (Korea), and insert injection molded by Interplex (CN) in [Ryton® R-4-240NA](#). The connection ring is designed to provide an electrical connection from the stator windings to the EV traction motor, while at the same time maintaining proper electrical isolation in the AC connection assembly. The R-4-240NA grade meets the higher temperature requirements of GM's Hummer and Lyriq EV Motors including maintaining high dielectric strength and volume resistivity at elevated operating temperatures. This specific Ryton® PPS grade was also selected due to its superior resistance to cracking and long-term fatigue performance during thermal cycling (-40°C to 200°C). Additionally, Ryton® PPS offers flexibility in design with insert overmolding due to its improved elongation and excellent knit-line strength.



(Photo courtesy Solvay/Boge)

Enabler technology category Award, 3rd Place

Crash panzer injection molded by Boge (Mexico) in [Amodel® AS1145 HS BK](#). The integrated all-thermoplastic design of the module is the first of its kind and benefits from the outstanding strength-to-weight ratio of the polymer. The component must resist high mechanical loads and impact energies in the event of a car crash. Amodel® PPA also provided the design flexibility needed for optimizing individual sections of the crash panzer to withstand these forces and stresses, while helping the manufacturer reduce weight and assembly costs by consolidating the design to a one-shot module integrating various different sub-components.



(Photo courtesy Solvay/Bosch)

Electronical Category Award, 3rd Place

48 volt inverter module from Robert Bosch GmbH (Germany) overmolded with [Ryton® PPS R-7-190 BL](#). The complex component integrates various copper inserts, which require faultless adhesion. In addition, the design features sharp edges that permitted no breakage during demolding and validation. The selected Ryton® PPS grade provided the perfect processability for this application, including exceptional weld line strength and a very similar thermal expansion coefficient vs. copper. It also offers a UL94 V0 flammability rating without the addition of any flame retardants, which is important for electrical applications and minimizes the risk of mold plate-out. This combines with the material's high shock resistance against thermal cycling between 40°C and +200°C) as well as intrinsic chemical stability and limited/zero water absorption especially in contrast to PA-based resins.

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About Solvay

Solvay is a science company whose technologies bring benefits to many aspects of daily life. With more than 21,000 employees in 63 countries, Solvay bonds people, ideas and elements to reinvent progress. The Group seeks to create sustainable shared value for all, notably through its Solvay One Planet roadmap crafted around three pillars: protecting the climate, preserving resources and fostering a better life. The Group's innovative solutions contribute to safer, cleaner, and more sustainable products found in homes, food and consumer goods, planes, cars, batteries, smart devices, health care applications, water and air purification systems. Founded in 1863, Solvay today ranks among the world's top three companies for the vast majority of its activities and delivered net sales of €10.1 billion in 2021. Solvay is listed on Euronext Brussels and Paris (SOLB). Learn more at www.solvay.com.

About Robert Bosch GmbH

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life."

About General Motors

Our goal is to deliver world-class customer experiences at every touchpoint and do so on a foundation of trust and transparency. Our vision is a world with zero crashes, zero emissions and zero congestion. Our diverse team of 155,000 employees brings their collective passion for engineering, technology and design to deliver on this ambitious future. And the bold commitments we've made are moving us closer to realizing this vision.

About Interplex

Interplex Group is privately-held by Blackstone. Blackstone is the world's largest alternative asset manager seeking to create positive economic impact and long-term value for their investors, the companies they invest in, and the communities in which they work. Headquartered in Singapore, our team of 13,000 employees spans 33 sites across 13 countries. Our strong global footprint makes us nimble, allowing us to rapidly respond to your needs anywhere in the world. Our reach includes Interplex Product Development teams, Tech Innovation Centers, and 12 research and development sites. Together, they provide a unique combination of emerging technologies and design, development & advanced production capabilities. Drawing on this breadth of technologies and expertise, Interplex quickly creates customized products and solutions for our customers that deliver performance, manufacturability, and profitability.

About LG Magna e-Powertrain

LG Magna e-Powertrain is a joint venture established July 2021 by LG Electronics and Magna International. It provides solutions for various electric vehicle parts such as drive motors, power conversion devices, and integrated systems. All production processes are carried out organically.

About Boge Rubber & Plastics Group

BOGE Rubber & Plastics stands for excellent products since 1931 in the field of vibration control technology and lightweight components for the automotive industry. As a long-term partner for leading automotive manufacturers, BOGE develops innovative solutions for tomorrow's mobility. Boge technologies are also used outside the automotive industry, for example in the agricultural, railroad and marine industries. The BOGE Rubber & Plastics Group, is present at eleven locations worldwide – Brazil, China, Germany, France, Mexico, Slovakia and U.S.A. and employs around 3,600 employees with an annual turnover of approx. 719 million euros (as of 2021). Boge Rubber & Plastics Group is headquartered in Damme (Germany).