Owens Corning Glass Fiber Reinforcements Enable Lighter Weighting in Composite Coil Springs for Automotive Suspension Systems

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Owens Corning (NYSE:OC), a leading global producer of glass fiber reinforcements and engineered materials for composite systems, today unveiled its contribution to the development of the first composite material coil springs for automotive suspension systems. The innovation is on display at the Owens Corning booth at the JEC Europe 2015 composites show and conferences in Paris, France.

The new composite coil spring patented by Sogefi is made of glass fiber reinforced polymer (GFRP) and weighs 40 to 70 percent less than traditional springs made of steel. In terms of mechanical performance, GFRP materials resist fatigue and dampen noise and vibration. They are also resistant to chemical corrosion (for instance, from wheel cleaners) and to gravel impact.

Sogefi says "The new springs can be mounted on cars and light commercial vehicles with no change to the suspension system, guaranteeing the vehicle a weight reduction of 4-6 kilograms (depending on the type of vehicle and the design of the spring) and a significantly reduced unsprung mass, thus improving driving precision. The replacement of steel by materials that are not subject to corrosion also guarantees a lower noise level and a significant reduction in CO₂ emissions (up to – 0.5 g per km)."

"Taking weight out of cars is mandatory to meet CO₂ emission regulations and fuel economy standards. Glass fiber reinforced composites provide the opportunity for significant part weight reduction compared to steel," states Owens Corning. "Owens Corning is proud of its contribution to Sogefi’s innovation. The company continues to work on light-weighting solutions in structural composites applications such as floor systems, pillars, roof and door modules, bumper beams, and seat structures."

A Successful Collaboration

Sogefi, a world leader in engine systems and flexible components for suspension systems, wanted to innovate to reduce suspension weight, moving from metal to a new composite solution. Owens Corning customized a glass fiber reinforcement especially for Sogefi’s composite coil spring project, to ensure compatibility with their manufacturing process and to help meet demanding performance requirements.

The initial design and industrial development of the composite coil spring results from close collaboration between Sogefi and Owens Corning since 2009. Throughout the project, Owens Corning brought its deep knowledge of glass fiber science and composites use, including best practices and performance benefits.

At the end of 2014, the GFRP coil springs manufactured by Sogefi were launched in serial production on the European car market.

About Owens Corning

Owens Corning (NYSE: OC) develops, manufactures and markets insulation, roofing, and fiberglass composites. Global in scope and human in scale, the company’s market-leading businesses use their deep expertise in materials, manufacturing and building science to develop products and systems that save energy and improve comfort in commercial and residential buildings. Through its glass reinforcements business, the company makes thousands of products lighter, stronger and more durable. Ultimately Owens Corning people and products make the world a better place. Based in Toledo, Ohio,
Owens Corning posted 2014 sales of $5.3 billion and employs about 14,000 people in 25 countries. It has been a Fortune 500® company for 60 consecutive years. For more information, please visit www.owenscorning.com.

About Sogefi

Sogefi (CIR group), founded in 1980 and listed on the Milan Stock Exchange, is a company which operates in the automotive components sector in two business areas in which it is a world leader: the development and production of flexible suspension components and systems for managing, filtering and cooling engine fluids. Present in 21 countries with 43 production plants and 17 commercial offices, Sogefi is partner to the most important vehicle construction companies worldwide. The group is a leader in Europe and South America in its core businesses, operating in the original equipment market and the OE and independent aftermarket. Thanks to its commitment to research, Sogefi has been continually improving the technological development of its parts, optimizing their performance in terms of life cycle, effectiveness, size, weight and compatibility with the environment. In 2014, the Sogefi group reported revenues over 1.3 billion euro. For information visit the website: www.sogefigroup.com.

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