

E-MOBILITY

100%



CHARGED WITH THE EXPERTISE
OF A TECHNOLOGY LEADER.

E-ENGINEERING



**1,000 EXPERTS. 60 COUNTRIES. 165 YEARS.
ONE GOAL: ADVANCING E-MOBILITY.**



With a network of more than 1,000 experts, we are located close to our automotive industry customers in 60 countries. As an internationally oriented company, experienced in global competition, we have comprehensive market and industry knowledge. In close cooperation with our customers and based on 165 years of material and technology competence, we develop tailor-made products and systems for almost all the components of an electric vehicle.

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YEARS OF MATERIAL EXPERTISE. TY.

Our experts have unique knowledge concerning the special properties of materials. That's how we can optimally meet customer-specific needs with our products. And thanks to our zero-defect philosophy, the highest quality and functional reliability are always guaranteed. From the electrification of the power train to boosting charging speed, safety, and comfort, we can shape the technological change together. What are your challenges for us? E-xperience more at e-mobility.fst.com

E-XPLORING



TRAVELING TOGETHER IN A NEW

POUCH CELL FRAME SEAL

Safer protection of lithium-ion battery systems

Large-scale lithium battery systems are already present in a variety of applications. Among these are automobiles with micro, full, and plug-in hybrids, as well as purely electrical vehicles. Fastening elements enable pouch cells to be reliably embedded in lithium-ion battery systems. These battery systems are used in a variety of applications, both stationary and mobile. The cell frame ensures reliable embedding of the cell into the battery system and protects the pouch cell.



SIMMERRING® WITH ELECTRICALLY CONDUCTIVE NONWOVEN

400 volts without electrostatic charging

Electric motors in plug-in hybrid vehicles with an operating voltage of 400 volts are mostly found on the automatic transmission's input shaft instead of a hydrodynamic converter. An electrical potential energy can build up between the housing and the shaft, which in extreme cases can lead to uncontrolled current flow and damage, particularly in the bearing area. A standard Simmerring can't discharge electric potential energy. However, in the shaft seal with electrically conducting nonwoven, a charge is directed specifically through the conductive transmission seal from the housing to the shaft. This does not allow electrostatic charges to arise.

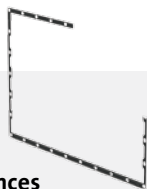


ERA OF MOBILITY.

GASKETS FOR BATTERIES

Protection against environmental influences

With the development of electric mobility, new applications are created for elastomer seals in batteries. Flat flange seals can securely seal battery covers. These seals are available in large dimensions to protect the entire battery unit from harmful environmental influences. Smaller “press-in-place” seals can be used in battery systems and seal components such as temperature control systems that optimize the battery’s performance.



PROFILE TO GASKET (P2G)

Reliable leakproof solutions for long service life

The sealing of housings in transmissions, engines, batteries, and transformers is important for ensuring their functional reliability. The newly developed profile to gasket (P2G) is an extremely economical and technically efficient solution. The gasket profile, which is manufactured as a linear extrusion and is fabricated via water-jet cutting, can be tailored to each installation space. The assembly of the complete profile in one piece avoids unnecessary joints even in very large, complex housings. P2G solutions can be implemented with suitable materials and in small quantities.



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2K HOUSING

Tolerance compensation during temperature fluctuations

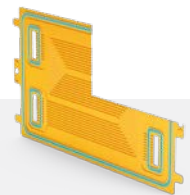
Electrical components are exposed to enormous stress from weathering and vibrations in automobiles and must be protected accordingly. Housings with seals integrated into the cover in a 2K design serve a greater purpose than just static sealing. They also reduce dynamic stresses and are situated to provide tolerance compensation, even during large temperature fluctuations. A component with a permanent injection-molded seal is more suitable for automatic final assembly, therefore yielding additional efficiency potential.



FUEL-CELL GASKETS

Precision sealing solutions for cell stacks

The fuel-cell car is the alternative to the battery-powered car for zero-emission vehicles. To generate energy safely and efficiently, precise sealing solutions are needed in the fuel-cell stacks. The increasing selection of vehicle applications demands robust materials, perfect design, and quality-assured manufacturing to meet the requirements of daily use. Freudenberg has access to a global network and are experienced in the manufacturing of effective sealing components for fuel-cell stacks.



PLUG & SEAL

For batteries with high-performance thermal management

Plug & Seal connectors ensure that liquids and gases can be transported without leakage in automobile and utility-vehicle engines. Plug & Seals are also the best option for electrical mobility and hybrids, as they provide high-performance thermal management of battery technology.



Detailed product information and 3-D visualization at [e-mobility.fst.com](https://www.e-mobility.fst.com)

Or visit our website via the following QR code:



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