

EXPERIENCE MOBILITY

ELRINGKLINGER ENGINEERED PLASTICS.

LEADING THE WAY. WITH INNOVATIONS
MADE OF HIGH-PERFORMANCE PLASTICS.



SYSTEM PARTNER. PROBLEM SOLVER. PIONEER.

SHAPING THE FUTURE. WITH ELRINGKLINGER.

For us, system expertise means being a pioneer, creating freedom and reaching goals faster. With our portfolio, we offer groundbreaking solutions for all vehicles, whether traditional, hybrid or pure electric.

Proximity to the customer, developing visions, overcoming challenges and driving forward innovations: Those are our key strengths, that's what has made us what we are today.



Nothing can replace experience combined with innovative spirit. ElringKlinger has plenty of both. In 1879, Paul Lechler founded a trading company for technical products, which would later become ElringKlinger AG. Today, we are a global player offering future-proof solutions for all drive types in all product areas. We also demonstrate our strengths in other industrial sectors. Proximity to the customer, developing visions and overcoming challenges are some of our key strengths. For over 140 years.



Alternative drive technologies, lightweight engineering concepts, new forms of mobility, sustainability and climate protection: The transformation process in the automotive industry is in full swing. The agenda for the future is clear. We are also working every day to play our part and push the limits of what is possible. We are focusing on four strategic fields: Electromobility, lightweight construction for all drive types, traditional mobility and non-automotive. Together with our customers, we are already finding answers to the questions of the future. And successfully driving forward innovations.



For our customers, we are a strong and reliable development partner and series supplier with unique expertise. We are a pioneer and companion. From the idea to the finished product. Whether electromobility, lightweight engineering, gasket and shielding technology, tool technology or engineering services – ElringKlinger impresses with the highest quality, reliability and performance. Around 10,000 employees are committed to achieving this at 45 sites worldwide.

HIGH-PERFORMANCE PLASTICS

PRODUCTS MADE OF HIGH-PERFORMANCE PLASTICS.

With product solutions made of high-performance plastics and thermoplastics such as PTFE compounds, Moldflon™-PTFE, PEEK, PPS and many others, ElringKlinger Engineered Plastics combines state-of-the-art manufacturing technology with decades of experience.

MOVING AHEAD WITH MAXIMUM PERFORMANCE AND INNOVATIVE DYNAMICS

The challenges in the automotive industry are becoming increasingly complex. Technological requirements are more demanding. Costs must be lowered. Development cycles must become shorter, production processes even more efficient

ElringKlinger Engineered Plastics, as a leader in technology and system partner for the automotive industry, develops custom-made, innovative engineering solutions from high-performance plastics, such as PTFE, PTFE compounds, and PEEK, as well as the thermoplastic material Moldflon™, which enables new, economical processing methods.

Our engineering solutions are found millionfold in series production and convince even under the toughest conditions in numerous vehicle technology applications. They withstand high temperatures, pressures, friction, aggressive media, chemicals, and many other types of stress to an outstanding degree. And they open up new constructive freedom for innovative, functional, and cost-effective solutions that precisely meet your specific requirements.

This is how our seals and structural components set the standard. For more than 50 years. Highly efficient. Economical. Technological. In processing and application. Worldwide.

“Unique performance for innovative customers of today's and tomorrow's mobility.”

BENEFITS OF HIGH-PERFORMANCE PLASTICS:

- + Customized properties
- + For toughest requirements
- + For a longer service life in critical applications
- + More safety
- + Extremely resilient
- + Highly compression-proof
- + Broad thermal application range
- + Highly wear-proof
- + Outstanding sliding characteristics
- + Low friction coefficient
- + Almost universal chemical resistance

ROTARY SHAFT SEAL
ELROSEAL™ E



SPRING-ENERGIZED SEAL



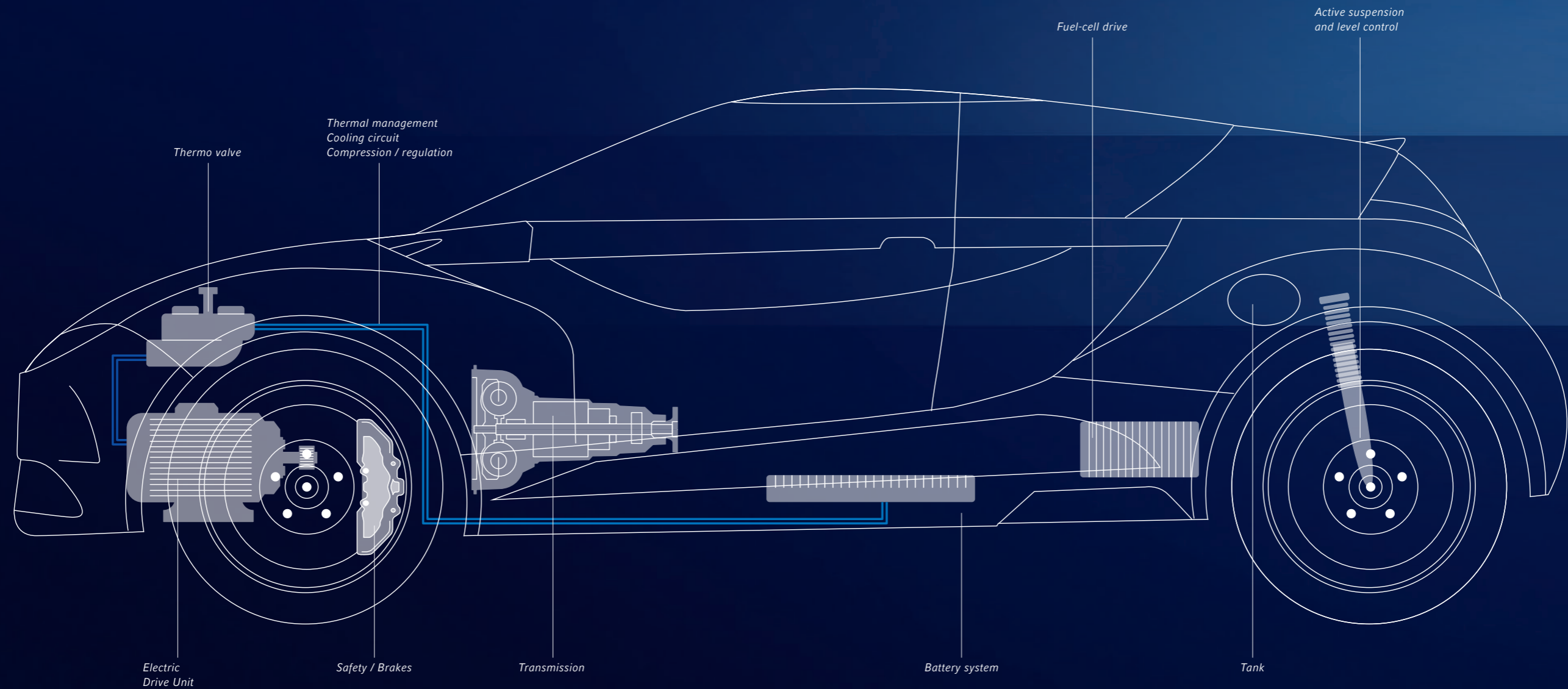
SEALING FOR THERMAL MANAGEMENT



EXPERTISE FOR CHANGE

INTELLIGENT AUTOMOTIVE SOLUTIONS.

Numerous components made by ElringKlinger Engineered Plastics are installed in modern vehicles.
This overview shows what these can be, for example.



UTILIZING THE FULL POTENTIAL

The use of innovative high-performance plastics unlocks an extensive efficiency potential in vehicle construction. In many areas, our ideas and engineering solutions are the key to faster development for serial production. If you are looking to solve your challenges with more construction freedom and cost effectiveness, then we are your partner. Together we develop new, advantageous solutions that are the first of their kind – and successfully drive your project.

PLASTICS AT THEIR BEST

THE BETTER SOLUTION IS REVEALED IN THE DETAILS.

With its expertise in areas including battery-electric vehicles, electric drive axles, thermal management, module systems, brake systems and drive comfort, ElringKlinger Engineered Plastics is ideally placed to meet your needs. Our portfolio includes, for example, ElroSeal™ rotary shaft seals, spring-energized seals, guide bands and guide rings as well as memory packings. Our components and solutions made of high-performance plastics withstand the most demanding requirements with ease. For greater efficiency and environmental friendliness.

ENGINE

In modern compact as well as emission-, consumption-, and performance-optimized internal combustion engines, our superior components and solutions withstand extreme temperatures, pressures, aggressive media, and other types of stress, and contribute to increased efficiency and environmental compatibility:

- + For the separation of fuel and engine oil in high-pressure gasoline and diesel injection pumps: Spring-energized PTFE seals in double or single-spring seal design
- + For gasoline high-pressure injectors: Polytetraflon™ PTFE and Moldflon™ PTFE seals made of highly pressure-resistant materials
- + In fuel pumps, as crankshaft and camshaft seal: As rotary shaft seals or sealing lips as insert in housings made of thermoplastics (2-component parts)
- + For lambda sensors in catalytic converters: Multifunctional PTFE molded hoses and cable guides
- + Throttle valves as multi-component part made of Moldflon™ PPS and Polytetraflon™ PTFE sealing lip

(ELECTRIC) COMPRESSORS

- + ElroSeal™ SP – a special seal for fast rotating shafts

Spring-energized seals



Sealing rings



ElroSeal™ E Rotary shaft seal



2-component toothed belt cover



Thermal management module



ElroSeal™ SP Rotary shaft seal



TRANSMISSION & DRIVE TRAIN

- + ElroSeal™ rotary shaft seals with PTFE lips for high circumferential speed requirements coupled with low friction
- + PTFE and Moldflon™ sealing solutions and sealing rings in automatic, dual clutch and continuously variable transmissions
- + Dynamic seals made of high-performance plastics and innovative solutions for electric drive systems demanding high speeds, dry running and minimal leakage rates

AIR-, CLIMATE- AND COOLING CIRCUIT

- + Seals and sealing elements made of Moldflon™-PTFE. Produced by injection molding and with individual geometries to provide maximum design freedom in contrast to conventionally manufactured products
- + Plug and seal gaskets and individual assemblies for the control of the cooling water circuit
- + PTFE sealing systems for control and throttle valves

BRAKES

- + Guide rings made of PEEK and PTFE compounds in the hydraulic unit of ABS systems
- + Memory packings and seals made of PEEK and PTFE compounds for piston sealing

BATTERY & ALTERNATIVE DRIVE SYSTEMS

- + Multi-component parts made of high-performance plastics such as Moldflon™ PTFE, PEEK, PPS
- + For separation of media or in pumps: Diaphragms made of Polytetraflon™ PTFE or filled PTFE and components made of porous materials
- + Pressure equalization and venting of housings and modules through porous diaphragms

ACTIVE SUSPENSION & LEVEL CONTROL

- + Memory packings and piston rings for complete pistons or connecting rods of compressors for air suspension / level control

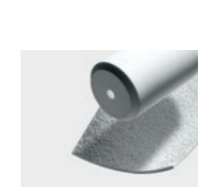
Piston ring



Thermal management seal



Porous components



Memory packing



Heat-shrink tubings



Throttle valve



THE ELROSEAL FAMILY – UNCOMPROMISING RELIABLE AND HIGHLY EFFECTIVE.



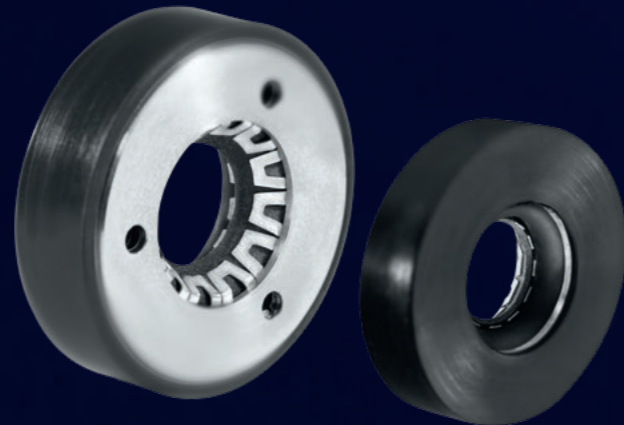
ELROSEAL™ EM



ELROSEAL™ E

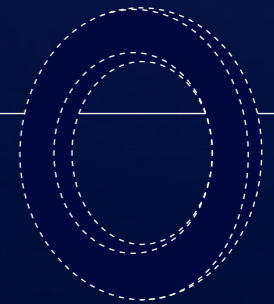


ELROSEAL™ SP



Next level:
New variant ElroSeal™ G

Safely deflected – for a sustainable future.



EXTREMELY RESILIENT AND FUNCTIONAL RELIABLE

INNOVATIVE PRODUCT SOLUTIONS FOR NEW FORMS OF MOBILITY

The transformation of the automotive industry has already begun – and ElringKlinger Engineered Plastics is well prepared. We support numerous development partners in shaping new forms of mobility. Together, we are tackling challenges such as new sealing interfaces for alternative drive systems and fuel cell components. Developing efficient and economical solutions is part of the DNA of our passion for development.

POWERTRAIN FUEL – PRESSURE IS RISING



There is a need to fully exploit the potential available for optimizing the emissions, consumption and performance of modern engines whilst at the same time making them more compact. Extreme temperatures, pressures, corrosive media and other loads all have to be dealt with. Our components and solutions made of high-performance plastics take even the most exacting demands in their stride. For greater efficiency and for the good of the environment.

THERMAL MANAGEMENT – SECURELY REGULATED



Highly efficient control of cooling circuits. In modern combustion engines, hybrid and electric drives, efficient closed-loop control is considered the key to reducing CO₂ emissions. Our components and solutions made of high-performance plastics serve to efficiently seal circuits. In doing so, they meet requirements for lifelong tightness, safety and functionality, and a wide range of operating conditions. Uncompromising and reliable.

ACTIVE SAFETY SYSTEMS – UNCOMPROMISINGLY FUNCTIONAL



Safety and comfort are basic elements of customer expectations of modern vehicles. Durable and flawless functionality must be a priority over the product life cycle. With uncompromising quality, our solutions made of high-performance plastics reliably and economically ensure the function of brakes, compressors, sensors, cable routing and actuators. The components are resistant to mechanical forces, environmental influences, contamination, heat and temperature fluctuations.



FUEL CELL MOBILITY – TOMORROW'S MOBILITY

Every change begins with the first step. "Giving tomorrow a future with zero emissions" is the ultimate goal. The change in the automotive segment has begun and various measures have been introduced globally.

ElringKlinger Plastics Technology supports numerous development partners shaping tomorrow's mobility. The challenges of developing new sealing interfaces for alternative drive systems and fuel cell components, efficient and economical solutions are part of the DNA of our passion for development.

ELECTRIC DRIVE – ENERGIZED



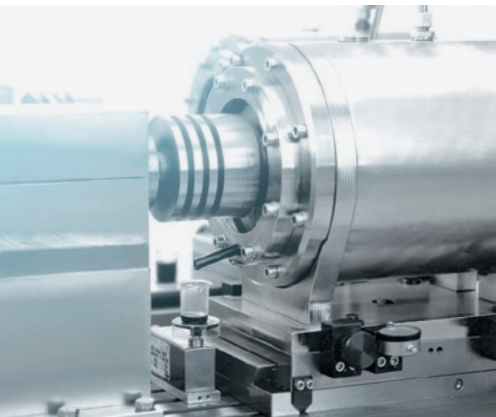
Alternative drive concepts such as hybrid and electric drives are increasingly being used in OEM vehicle fleets. Increasing expectations of powertrain technology are placing new demands on sealing components, such as higher dynamics and longer service lives. Our innovative product solutions made from high-performance plastics are trend-setting and reliably cope with high pressures and speeds, extreme temperatures as well as dry running or insufficient lubrication.

Our development partnership offers our customers the opportunity to test the sealing interface at component level and jointly bring it into series production. Various test rigs, with which sealing systems can be tested up to a rotational speed of 150,000 rpm, complete the service for our customers.

COMPRESSION & REGULATION – WITH IDEAL PRESSURE TO MAXIMUM PERFORMANCE



The ideal pressure also delivers the best performance. For fuel cell systems, battery-electric or hybrid drive technologies, the ideal pressure control ensures the corresponding reduction in emissions. Thanks to their sustainability in terms of service life and durability, seals made of high-performance plastics help to extend service intervals or eliminate them altogether. Awareness of tomorrow's mobility coupled with quality-oriented engineering from "The Länd" leads to innovative sealing services that shape mobility.



EXPERTISE IN R&D AND PRODUCTION

DEMAND MORE. ADVANCE WITH OUR HELP.

AN ENGINEERING PARTNERSHIP THAT ENABLES YOU TO LEAD THE WAY

Our expertise across the entire process chain, including the involvement of your teams, will make your developments more reliable, faster, and optimally adjusted to market needs, both technologically as well as economically.

As an independent and global manufacturer, we will be your reliable partner, even throughout longer development times. Our development and manufacturing know-how enables the realization of seamless integration into your manufacturing and supply chain, as well as just-in-time delivery.

PERFORMANCE THAT GIVES YOU A HEAD START

- + Tailor-made technical and cost-effective solutions made of high-performance plastics with a precisely defined properties profile
- + In-house development and test labs for materials, products, and systems
- + In-house raw material development and compounding
- + Application-specific compound optimization with organic and anorganic fillers
- + All manufacturing processes for semifinished products such as ram extrusion, compression molding, paste extrusion, and isostatic compression for minimization of material use
- + Moldflon™ injection molding processing, next generation PTFE
- + Product tests for securing of serial production
- + Continuous optimization of manufacturing processes and methods for quality assurance

- Comprehensive material and processing expertise for optimal solutions with in-house raw materials development, compounding, and application-specific compound optimization.
- Teamwork from the idea to series production. Engineering with state-of-the-art tools, such as 3D CAD systems, FEM calculations, and lifetime simulations.
- Test bench for rotary shaft seals with PTFE sealing lip for testing of various parameters.
- Test bench for long-term wear rates of various PTFE compounds on different sliding mates.
- Modern mixing equipment for precisely defined mixing ratio.
- We use state-of-the-art analysis equipment such as TGA and DSC for the optimization of our PTFE compounds.

WWW.ELRINGKLINGER-ENGINEERED-PLASTICS.COM



OUR PORTFOLIO. FOR YOUR SUCCESS:

- + Battery technology
- + Fuel cell technology
- + Electric drive units
- + E-mobility components
- + Lightweight and elastomer technology
- + Sealing systems
- + Shielding systems
- + Components from high-performance plastics
- + Dynamic precision parts
- + Tooling technology
- + Engine development services
- + Aftermarket

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