

KEM ON LOCATION



ElringKlinger Kunststofftechnik GmbH is an autonomously operating company of ElringKlinger AG. Currently employing 320 people at its locations in Bietigheim-Bissingen and Heidenheim, Germany, the company has been producing engineering solutions and industrial products based on high-performance plastics such as PTFE, PTFE compounds and PTFE composite materials for over 40 years. KEM interviewed Holger Schneider and Martin Schuster.

KEM: *Mr. Schneider, do you tend to define ElringKlinger as more of a sealing or a plastics specialist?*

Schneider: Neither nor. Working with PTFE, we are specializing in a narrow sector of plastics technology. Yet we are not a typical plastics manufacturer. Rather, we purchase the PTFE base material from renowned specialists. We then vary the material with fillers, enabling us to produce more than 1000

different compounds. Afterwards, we process the parts, primarily by cutting and machining. 50 percent of our portfolio consists of seals and the other 50 percent of engineering design elements and special products. We have different competitors, because there is hardly another single company that matches the product range we offer.

KEM: *Mr. Schuster, what are the market-leading products in your range ?*

Schuster: We are the market leader in the field of shaft seals with PTFE sealing lips for general industrials. These seals are used in screw-type compressors and applications involving high temperatures and sliding speeds. PTFE meets the requirements of low-lube and oil-free applications. Two thirds of these seals we manufacture according to customer specifications. The special characteristic of our memory packings is their geometry. The seal is originally flat and then molded during the production process. While operating in the particular application, it “remembers” its original geometry, thus generating radial force. This achieves a spring effect without requiring an additional spring element. This low-cost element provides a sealing effect against air and gases. In addition, it is perfectly suited for pneumatic damping applications and automotive ride height leveling systems. Our spring-energized seals are suitable for use in painting and medical technologies, the food processing industry, mechanical engineering as well as the automotive industry. With regard to the latter, we were able to achieve major successes particularly with gasoline direct injection systems.



from left.:
Dipl.-Ing. Dipl.-Ing. (FH) Dipl.-Wirt-
Ing (FH) **Holger Schneider**,
Sales Manager,

KEM: *What type of innovation is behind this?*

Schuster: : In this technology the fuel is directly injected into the combustion chamber at higher pressures. A plunger pump generates this pressure, with 4 to 5 bar at the sealing side. The difficulty involved in this project was the fact that the high frequencies of up to 180 Hz result in large amounts of fuel being dragged towards the outside. Other requirements to be met included 5000 hours of service life, minimum wear and keeping leakage below 1 mm³/min. The development cycle was approximately three years for the pre-production series and five years for regular production. For this project we developed a specific in-house test rig, enabling us to run tests for all frequencies and conditions.

KEM: *Mr. Schneider, what future developments can be anticipated with regard to PTFE ?*

Schneider: There will be continuous developments of new PTFE versions. Porous PTFE for gases, fluids and vapors in films/sheets, filter elements and membranes is up and coming. Thanks to its good reflection properties, it is excellently suited for the optical sector and for improving LCD displays. With regard to existing sealing problems, PTFE will continue to replace elastomers currently used.

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