



**VICTOR REINZ®**

*Sealing Products*

## REINZ Plant Overview

The name REINZ represents a piece of German automotive history – and it is an exciting story. More than ninety years ago, at a time when spotting an automobile on the street was still an uncommon occurrence, Hugo Reinz GmbH was already in its first year of business. Today, 1.5 billion gaskets later, the name REINZ still stands for innovative gasket technology of the highest caliber – for original equipment in new cars, top-quality replacement parts, and industrial sealing products. With a broad spectrum of innovative products, REINZ is a preferred development partner to the European automotive industry and the market leader in many product segments.

# HUGO REINZ BERLIN-SPANDAU



Hugo Reinz

## The early years

On December 31, 1920, in the midst of global economic depression, Hugo Reinz launched a wholesale company dealing in railway and industrial products; based in the Charlottenburg district of Berlin, this company formed the core of today's global organization. A short time later, he began manufacturing his own flat gaskets. The first customers were the rapidly expanding airplane motor industry and about

65 companies that had specialized in the production of motor vehicles. Mr. Reinz's products were flat gaskets for static applications, produced from oil-impregnated paper, asbestos board, rubber-asbestos sheets, and asbestos-fiber sheets. Despite the still fragile global economy, by 1922 Hugo Reinz planned to open his own factory in Berlin-Spandau in order to meet the greatly expanding demand for his first asbestos gaskets.

## A true spirit of innovation



In the early 1920s, motor manufacturers started to abandon the solid-block motor design. Hugo Reinz, an experienced businessman and design genius, quickly recognized that the ability to create an effective seal between motor blocks and cylinder heads would assume ever-greater importance. The elevated compression ratios in the new higher-performance motors demanded a reliable means of sealing. Hugo Reinz was only too happy to accept this challenge and soon created quite a stir with a series of new and innovative designs. So it should come as no surprise that he was soon a regular guest at every development and design

office in the German, Austrian, Czech, and French automotive industries. Even when automakers

drove new prototype vehicles at closed test tracks, Hugo Reinz was on scene to offer his expert advice.

## The breakthrough

Increasing requirements in internal combustion motors, new problems like power loss, and motor damage caused by cooling-water leaks and gas blow-by soon made it essential to improve the way motors were sealed. German automakers turned to Hugo Reinz, who a short time before had started experimenting with thin-walled, flat-face, and flexible gaskets. It was at this time that one of the company's first classics appeared: the REINZ-SPEZIAL fabric gasket, a new generation of gaskets constructed of a tightly woven asbestos-metal material.

## Synonymous for effective sealing

These gaskets were first mass produced as early as 1929 in the new Berlin-Spandau plant. German and many foreign automobile and motor manufac-

turers soon began using the new

REINZ-SPEZIAL in their regular production lines. The

copper-asbestos gasket that had ruled until that time

was driven from the market – taking with it several

less inventive competitors. When the REINZ-SPEZIAL

was granted a patent in 1934, its victory was sealed.

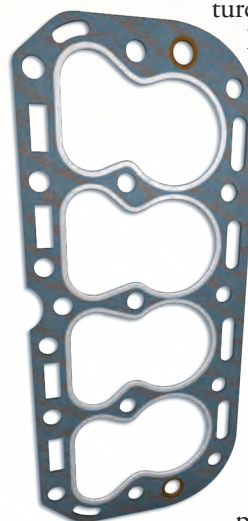
In the same year, Hugo Reinz gave up the wholesale

business and began concentrating his full energies

on the development and production of innovative flat

gaskets for automotive motors. By

1936, REINZ dominated the gasket business, with virtually every automobile and motor manufacturer on the European continent using the REINZ-SPEZIAL gaskets in their own series production.



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## A tradition of racing

From the very beginning, the name REINZ has been closely associated with international racing history. In fact, all of the Auto Union racecars as well as the legendary Mercedes Benz Silver Arrow,



*Auto-Union  
16 Zylinder Typ C  
1937*

were equipped with gaskets from REINZ. By 1930, Hugo Reinz was receiving regular letters of thanks from international racing drivers who achieved many impressive victories due in part to REINZ gaskets. In one example, Auto Union telegraphed the following on July 6, 1937: "First start of German race cars in North America since 1918. Outstanding success for Auto Union. Rosemeyer wins the Vanderbilt Cup. Delius fourth. The victorious Auto Union cars were equipped with REINZ gaskets. Auto Union." Today, REINZ remains a major player in motor sports, whether it's the Mini Challenge or Formula 1. With Sealing Technology Powered by VICTOR REINZ.



*Neu-Ulm Plant  
1950*

## An end and a new beginning

The final year of World War II was a hard test for the company, not in the least because founder Hugo Reinz had been mortally wounded and his plant was little more than rubble. When the war ended in May 1945, a small group of employees gathered around the pitiful remains of 25 years of German automobile history. Included in this group was Rudolf Rzehulka, an industrialist and close confidant of Hugo Reinz. He began immediately to rebuild the production facilities that had been destroyed during the war and to secure jobs for the company's talented workers. In 1947, just as production was gradually picking up speed in Berlin-Spandau, Rudolf Rzehulka made an important decision as he signed a contract with the national asset trust to lease a piece of property in far-away Neu-Ulm, the southern-German city which is still the global headquarters of REINZ-Dichtungs-GmbH. His decision proved to be a wise one, since a short time later the Berlin blockade isolated the city from foreign sources of raw materials, which would have prevented the development of new sealing materials.

## The new plant

In 1947, Rudolf Rzehulka began building the new REINZ gasket factory from virtually nothing on the new 40,000-square-meter property, a former military training center a short distance from the city of Neu-Ulm. He made the rounds from banks to zoning authorities and from military administrators to dismantled factories, gathering credit and machines and exchanging spare car parts for rolling mills. He demonstrated incredible perseverance until fourteen railway cars loaded with machines, presses, electrical equipment, and office furniture finally arrived at the new site. By the end of 1948, the plant delivered its first mass-production gaskets and just one year later was the exclusive vendor of Volkswagen and Mercedes Benz.



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*Test Benches  
Neu-Ulm Plant  
1950*

## The Economic Wonder

The gasket wonder of the 1950s came from Neu-Ulm and was known as the REINZ-SUPER-SPEZIAL. Demand was so high that suppliers of steel-wire gauze throughout Germany were hopelessly overwhelmed. As a result, Rudolf Rzehulka made a quick decision to establish his own wire-gauze weaving mill in Neu-Ulm in order to secure the company's supply of the new material.



## The most advanced sealing technology

Of course, the company's first three engine test beds were built according to its own designs. Relatively brief test runs now deliver clear assessments of the suitability of new gaskets. Today REINZ has about one dozen engine test beds that automotive companies eagerly use to thoroughly test the engines of tomorrow. The open replacement-parts business is also increasingly important as a second pillar of strength. In the late 1950s, the REINZ product line included nearly 1000 gasket kits for cars and commercial vehicles, but it didn't stop there.

## Active development partnership

By 1962, technical physics labs at the new REINZ research and development center made it possible to scientifically test in advance whether gaskets would stand up to the punishment that REINZ partners in the auto industry were sure to put them through. For the first time, empirical development was replaced by precise scientific research. This engineering spirit from the early years remains one of the key pillars of REINZ's success and continues to spawn new products and technologies. These days, it's not just the product that benefits from advanced calculation methods and simulations but also production processes themselves. So it's no surprise that Neu-Ulm is now the center of development activities for DANA in Europe.

## REINZ goes international

In the 1970s, REINZ continued to improve its production processes and established its first transfer line. Even at this time, REINZ was using production technology so new and advanced that it had to develop and build its own machinery. But through a number of investments and cooperative relationships REINZ established a presence on the international stage of automotive engineering. Today the company's relationships stretch from Eastern Europe to India and from Japan to the United States. By the late 1970s, the company's sales exceeded 100 million German marks for the first time.



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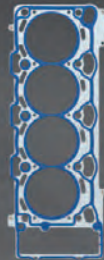
1983  
Asbestos-free soft materials on the basis of synthetic fibres (AFM®)



1986  
REINZ ReTec® for thermal and acoustical insulation



1993  
Multilayer steel gaskets (MLS)



1998  
Partial coating process for MLS gaskets



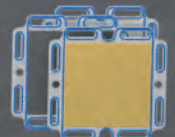
1999  
Glimmer-Inlay ProTec®



2000  
Modular Cam Cover Systems



2000  
Wave-Stopper® or trapezoidal stopper



2001  
Metallic Bipolar Plates

## An innovative leader

In the early 1980s, Sweden became the first European country to forbid the use of asbestos. By 1993, Germany had also banned asbestos in gaskets. But once again, REINZ was several steps ahead of the competition. As early as 1981 REINZ introduced the first asbestos-free material suitable for sealing cylinder heads and automobile exhaust systems: an aramid fiber material with a tanged steel carrier. The

today. In 1986, REINZ introduced a new line of products that resolved a burning problem under the hood: the ability to shield sensitive electronics from heat and acoustic radiation emitted by exhaust manifolds or turbochargers in the narrow engine compartments of modern automobiles.

## REINZ and DANA

In 1993, REINZ became part of the American DANA Corporation, one of the world's largest independent manufacturers of components for automobiles and commercial vehicles. The gasket segment of DANA, consisting of VICTOR in the United States and REINZ in Germany, is now the world's largest manufacturer of flat gaskets. In the same year, the renamed VICTOR REINZ once again revolutionized sealing technology. This time, multi-layer steel technology (MLS) replaced traditional soft gasket materials with a tanged steel carrier for sealing cylinder heads. The new MLS gaskets consist of several layers of steel that are partially embossed and coated with elastomer in order to increase surface pressure. In 1999, the second generation of MLS gaskets with partial coating were brought into series



REINZ Neu-Ulm  
with DANA  
since 1993

company followed up with an entire line of asbestos-free materials that were produced in bulk quantities starting in 1983 and are still in very high demand



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2004  
Multitwister®



2006  
V-Bond



2007  
Spacing Sheet  
Stopper



2008  
Separator Plates  
for Automatic Transmissions



2010  
Powerwave



2011  
NaTEC  
Noise absorbing  
Protective Shield



Cylinder Head  
Gasket with  
Temperature Sensors

supplier. In fact, the new Smarts from DaimlerChrysler employ an entire system of VICTOR REINZ gaskets, including an MLS cylinder-head gasket and secondary gaskets in addition to an thermal and acoustic protective shield and valve covers for the cylinder head. Prototypes of the third-generation MLS gaskets are already in use. They are equipped with special sensors that serve functions like control electronics for an intelligent cooling system. These exciting products will help the latest generation of cars fulfill the stringent exhaust standards of the future.

The future of gasket technology in Neu-Ulm promises to be equally exciting as the company's past.

production.

### Technology for the future

Shortly before the new millennium, VICTOR REINZ entered a third product segment: plastics. The company's first modular valve cover systems for Opel and Deutz were produced in cooperation with experienced partners. But by 2000 Ford took delivery of the first valve covers developed and produced entirely by VICTOR REINZ at its new production hall in Neu-Ulm – which happens to be the most advanced duroplastics production line in Europe. As a result, VICTOR REINZ completed its final transformation from component manufacturer to system

Further information is available from:

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