



Rhenoflex has been making toe puffs and counters in Ludwigshafen, Germany, for over 50 years. It has grown steadily in terms of both technical innovation and output, yet its origins are both interesting and surprising.

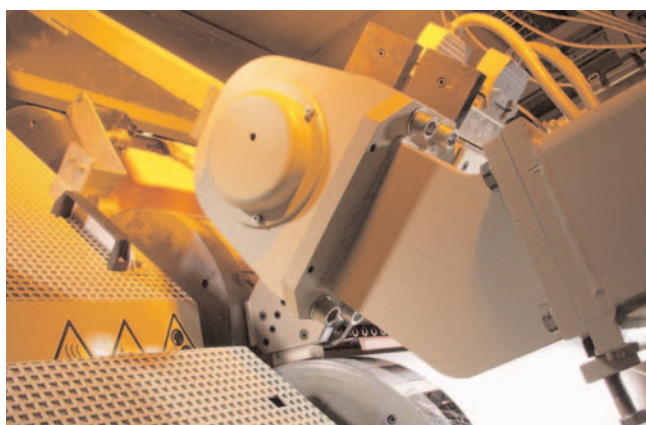
Eco-friendly toepuffs and counters

Rhenoflex GmbH is a direct subsidiary of the German chemical group BK Giulini, which at first sight might appear to be an unusual name for a German company. It was actually started by the Italian-born Giulini brothers in 1823 to produce sulphuric acid based on Sicilian sulphur. The company moved to Ludwigshafen on the banks of the Rhine towards the end of the 19th century, at a time when Germany was undergoing huge industrial expansion.

New beginnings

Back in 1946/47, two smart individuals with no connection to shoemaking whatsoever decided there were business opportunities to exploit in the shoe industry in nearby Pirmasens. One of their schemes was to make stiffeners for the up and coming California construction that was proving so popular at that time. The basis for this idea stemmed from the highly successful use of plastic reinforced collars for shirts. Could stiffened linen fabric also be used in the manufacture of footwear?

With the help of a shoe factory manager and a shoe designer, they produced the first trial material in a small village very close to the location of the present day Rhenoflex plant. The Giulini brothers, seeing the potential, took over the licence to manufacture and market stiffeners based on water-based technology and using woven substrates for the shoe industry.



Production in 1954 (top) compared with today



Cutting in 1954 and in 2005

For this project Giuliani founded a separate department called Therna and initially farmed production out to a subcontractor in Mannheim. Later on it was decided to move production to the company's site in Ludwigshafen. On April 1, 1952, Rhenoflex GmbH was founded as a 100% subsidiary company, with a factory covering about 2,000 square metres and a further 100 square metres for offices.

The original toe puffs and counters used woven fabric substrates that were saturated with urea formaldehyde resins that could be water-activated on the shoe factory production line. This system contrasted favourably with solvent-activated toe puffs and counters as they were easier to handle, did not affect the hands and, above all, did not give off unpleasant fumes. Modern health and safety concerns were not fully understood at the time, but as they also performed well in the shoe, both management and operatives on the production line could see the advantages.

Experienced shoe technicians were hired to introduce the new products into shoe factories' production systems and Rhenoflex toe puffs and counters quickly became popular throughout the German footwear industry. Building on this strong base, the company opened its first laboratory in 1953. It was soon also exporting to other European countries and, by 1955, had already established Rhenoflex France to service, what was then, a substantial French footwear industry.

The next technology

The mid-1950s also saw the development of heat-activated thermo-adhesive coated toe puffs and counters which, unlike many competitors who used various forms of leather board, still used saturated woven or nonwoven substrates. The big advantage was that Rhenoflex type counters could be cut from flat sheets and skived within the shoe factory, rather than being ordered as a complete component. This offered a greater degree of flexibility and economy. By the end of the '50s, the company was supplying toe puffs and counters for almost all types of footwear other than safety toe caps.

The 1960s saw the beginning of a rapid growth in world markets:

- 1962 – licence agreement with Stanbee in the USA (dissolved in 2001)
- 1983 – licence co-operation with Arteccla in Brazil
- 1984 – acquisition of Enduction Dreyer (merged with Rhenoflex France to form Rhenoflex Dreyer)

- 1985 – foundation of Rhenoflex UK
- 1997 – acquisition of Gurit Worbla GmbH in Germany
- 1998 – foundation of Rhenoflex Portugal Ltda
- 2002 – foundation of Arteccla Rhenoflex Mexico
- 2005 – establishment of Rx production site at Jiang Yin Park (Shanghai) in China

The RX ranges

The next innovation, as far as product was concerned, came in 1980 with the introduction of the patented RX3000 range. This was a major breakthrough in that the adhesive was contained within the material itself rather than being an outer coating. This meant that the skived edges would also stick to the upper material, thus improving the bonding area. The material was also easier to handle when hot, as it did not stick to the operator's fingers. The fact it was made using a powder system with synthetic fillers and polyester fabric meant it was also recyclable and thus environmentally friendly.

The final refinement introduced in the '80s was Rhenoprint, which is totally powder-based and, although it still contains natural fillers, there is no woven element. It can also be moulded to the required shape with all edge reductions included to eliminate skiving. It also effectively eliminates all waste as everything can be re-ground and re-used as prime raw material.

RX5000, introduced in 2005, took this idea a stage further by replacing the synthetic fillers with natural ones. This makes the product more environmentally friendly and is the basis for the recycling concept. The establishment of production sites close to prime markets, such as Arteccla in Brazil or Jiang Yin in China, makes waste disposal superfluous as it can be returned for reprocessing into prime material.

Rhenoflex's philosophy has been to remain one step ahead of its competitors. The rapidly increasing speed of footwear production demanded better components, which led to the move from water- to thermo-activation and on to the development of the RX series of products which form the company's product range today. The company is a well-respected and successful player in the global footwear industry. The driving force has always been, and continues to be, the customer, coupled with the will to develop and supply the products they need, which is surely what every business should strive to do. 