Forbo
MOVEMENT SYSTEMS

Siegling's 90th anniversary

Constantly innovative

A common misconception is that power transmission and conveyor belts are dull and anything but high tech. But a glance at 90 years of Forbo Siegling's history and its product development proves the very opposite. And shows the future holds plenty of potential too.

It is something of a world premiere back in 279 B.C. One sunny day, people in Alexandria are alarmed and fascinated in equal measure. During a procession by King Ptolemy II, a carriage transports a statue that appears to move as if by magic and dispense milk from a golden dish. This is the world's first vending machine. And to pull off the surprise, ancient high-tech is integrated into the machine: a leather power transmission belt. The idea of belt drives is born.

Of course the Ancient Egyptians, Greeks and Romans do not just employ the concept for gimmicks of this sort. Leather belts also drive simple water-carrying devices, drive structures on ships and rotate grindstones. This power transmission method is so reliable that the predecessor of today's belt drive taps into an increasing number of new fields in the 2000 years that follow.

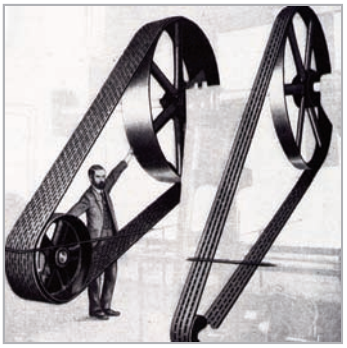
A pioneer of this technology is Forbo Siegling from Hanover, Germany. The company has a long-standing tradition and celebrates its ninetieth anniversary this year.

Successful beginnings

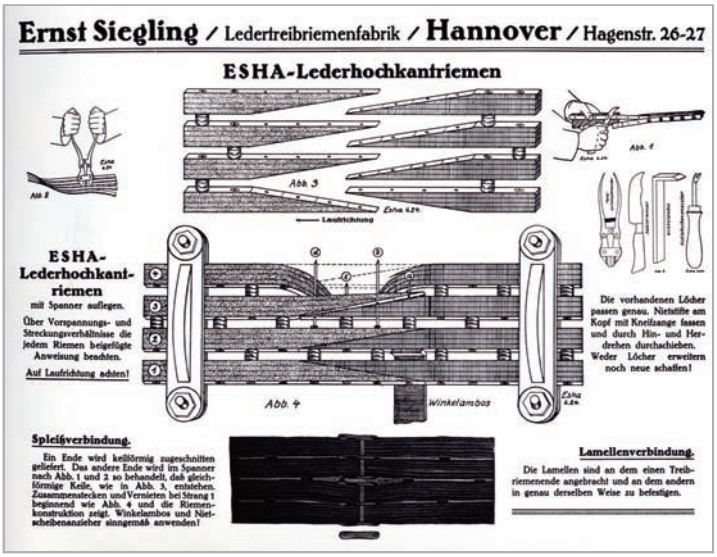
The company owes its name to Ernst Siegling who starts producing traditional leather flat belts immediately after founding the drive belt factory in 1919. The company succeeds in making the first groundbreaking innovation in the 1920s: chrome leather vertical drive belts that consist of vertical leather bands and riveted leather strips. A number of innovations and enhancements to the belting ensue. The company has various German and foreign patents and keeps its ear close to the market. As a result, it rapidly becomes successful, gaining an international reputation. In the middle of World War II, when Siegling's factory in the centre of Hanover is

Advertisement (1925)

Company founder Ernst Siegling (centre back) in the early 1920s with his employees.



Large transmission belts are also part of the product portfolio, as this image from the 1920s shows.



Vertical power transmission belts made of riveted leather strips are a runaway success in the early years. Here are instructions issued in 1925 for splicing this belt.

also destroyed by bombs, the company manages to invent one of the best-selling products in its history. Under the Extremultus brand, a multi-layer flat belt with an efficiency factor of more than 98 percent is filed for patent. In comparison with conventional belt and chain drives, this belt represents a vast increase in energy efficiency.

When the British military government authorises resumption of production in 1945, Extremultus helps the company to become part of the young Germany's economic miracle. Because the innovative, force-fit driven high efficiency flat belts are required in all sectors of industry. And business is booming everywhere, from the textiles industry to packaging machinery, to vehicle body presses in the automotive industry.

Growth during the economic miracle

When Germany becomes a major industrial nation in the early 1960s after the economic miracle, automation and efficiency become key issues. Siegling's conveyor belts facilitate and accelerate this process. Allegedly it is biscuit manufacturer and established Siegling customer Hermann Bahlsen who provides the stimulus for a revolutionary idea. Together with Hellmut Siegling, son of the company's founder and manager of the company since 1954, an idea germinates to develop a light conveyor belt for internal material flow, for example in baked goods manufacture. As there was no light material flow technology till the beginning of the 1960s, many people today believe that this alliance signals the unofficial birth of conveying and processing belts for in-company logistics. However, more development is required before the belts can be used in real world conditions. In contrast to Extremultus, the fundamental principle of a Siegling Transilon power transmission belt is based on one or several synthetic layers of fabric. Depending on the application, these layers are coated with PVC or other plastics.

The new belt runs very quietly, hardly stretches at all, is dimensionally stable, but robust and durable at the same time. It does not absorb moisture and therefore does not decompose. Siegling Transilon belts mean that high speeds and very small drum diameters are possible. As a result, they often enable new, efficient production and manufacturing processes, guaranteeing efficient continual material flows and better working conditions. Over the years, different belt types (several hundred in number) are especially developed with specific properties for different

Extremultus high efficiency flat belts keep business on the move.

A new plant is built in Hannover-Vahrenheide in 1955.

Since the 1960`s Transilon belts enabled a degree of automation that was previously unimaginable in many areas.

industries and applications. Another benefit is that in contrast to standard rubber heavy duty belts with steel tension members, this new light conveyor belt requires much smaller conveyors and therefore only a fraction of the space and weight. The light conveyor belt leant the traditional conveyor more practical features and enabled a degree of automation that was previously unimaginable in many areas. So conveyor belts start to become integral parts of large-scale bakeries or package distribution centres.

In 1971 Siegling has another stroke of genius: they create the world's first production facilities for three-metre wide conveyor belt material. In the years that followed, Siegling then pushes for international expansion. New production facilities and their own sales companies are founded world wide, in the US, Canada, Switzerland, Mexico, Brazil, Japan, Italy, France, Sweden, the Netherlands, Denmark, Australia, Austria and Spain. In the 1990s, the company inaugurates a production plant in China, after an extremely successful plant had existed in Japan since the 1970s.

Siegling expands its capacities and modernises its production by setting up a new plant in Hanover in 1999. Since that date, conveyor and processing belts up to a width of 4.5 metres are made using a calendering process. In the same year, the company creates a research and development centre.

As part of the Swiss Forbo SA Group since 1994, Forbo Siegling continues to pursue its international strategy and approach towards integration. Further international companies, particularly in eastern Europe, are founded. New product groups, such as modular belts and plastic timing belts, round off the portfolio and turn the company into a one-stop belting provider.

The company has developed rapidly. It started off as a modest, family-run business with around 20 employees. Today over 2,000 employees worldwide produce and

sell the quality products. This underscores the leading role Forbo Siegling plays internationally in power transmission and conveyor belts made of synthetic materials. Since 2007, the company's brand name has had a more international appeal: Forbo Movement Systems.

On the road to the future

So Forbo Siegling has paved the way to a successful future. Conveyor belts also have such huge potential because they play a role in the current climate debate. One of Forbo Siegling's latest inventions, the Amp Miser® belt, is a response to the issue. The belt guarantees significant energy savings when operating baggage handling conveyors at airports, modern logistics centres, or treadmills used in gyms around the clock. An innovative smooth layer on the underside that acts like a dry lubricant, permanently reduces friction during operation. This cuts energy consumption by up to 38 percent, resulting in lower running costs and a better carbon footprint.

Think about these facts and figures the next time you are at the airport, or standing at a cash till and maybe you will be just as amazed as the Ancient Alexandrians were on that sunny day almost 2,300 years ago...

Forbo Siegling today: machine tapes in a letter sorter (top) and conveyor belts in a logistics centre (middle). In the food industry, special conveyor belts guarantee hygiene and dynamic production processes.