

In 2004 Austrian company the Constantia Group decided its foil rolling plant could not keep pace with long term increasing demand. To ensure a reliable foil supply to its Mühlhofen plant, near Vienna and the rest of the group, it decided to build a new aluminium foil rolling plant on its greenfield site.



The foil rolling mill built by Achenbach Buschhütten

Austrian foil rolling plant upgraded

A production system is currently being developed in a multi-stage construction process. The result will be a project which is already attracting global attention.

The aim is to build up to four foil rolling mills – supplied from a modern high-bay warehouse for coil transport and storage with support systems such as annealing furnaces, aluminium foil doublers and separators as well as grinders – to produce high quality foil.

The new rolling mills from expansion stages I and II are already processing strip input thicknesses of 0.6mm into foils at a width of 1850mm and finish thicknesses of as low as 0.006mm.

This has helped to boost foil production in the Dairy & Food, Pharma & Film and Alufoil Container Systems fields.

For Constantia Teich, the next step in realising the project was to call in top-quality suppliers. The most important of these was Achenbach Buschhütten, which supplies rolling mills as well as systems for rolling oil filtration, exhaust air purification and rectification.

Achenbach worked to develop an implementation plan for an integrative production system using a preliminary study by Constantia Teich as a guide.

It was here that Constantia Teich benefited from Achenbach's experience as a rolling mill manufacturer.

Only after the concept had been worked out, including definition of the four expansion stages as well as discussions and fine-tuning with company management, was the green light given to start the project.

Following an approach based on mechanics, automation and drive engineering, rolling mills were designed that, right from the start, supported the goal of developing an integrative foil production line.

Pinpoint delivery

Roman Höllner, Head of Technical Development and Project Manager at

Constantia Teich said: "Pinpoint delivery, assembly and commissioning: these were the factors that impressed us again in the second phase.

"A week before the contractually set completion date, the first strip was already rolled and after a start-up curve of a few weeks, we were able to start three-shift operation and launch full production."

Technical solution

Among the detailed technical solutions were automatic strip threading systems, online vibration monitoring on the main and coiler drives, oscillating back-up roll strippers, back-up roll cleaning devices and newly developed strip drying systems that exceeded all expectations in terms of their effectiveness.

"Selected specialists from other foil producers who have already viewed our new rolling mills were very impressed with the excellent strip dryness and strip flatness," said Rainer Huber, Head of Rolling Production at Constantia Teich.

"They were also amazed that this highly productive plant operation really is, by default, controlled by one person per rolling mill."

This is made possible due to Optiroll solutions, such as strip thickness and strip flatness control systems, WIN Spray roll coolant systems, frequency-controlled AC drives and roll mark detectors.

The high integration level, which ensures a synchronisation of the production processes, is evident both in the sense of minimising production and ancillary times as well as in the sense of quality assurance.

This is due to a reduction of the scrap rate due to the integration of a material-conserving coil transport process.

Minimum coil changing times are guaranteed, for example, by means of design solutions such as the installation of coil preparation and inspection stations, a flexible spool handling system and the automatic strip feeding combined with a

belt wrapper which has no problem winding on even the thinnest strip gauges.

Summary

In summary, the conception and realisation of this project show the three factors crucial for the best interplay in a project such as this:

- Respect for the foil producer regarding its desires and expectations; in other words, responding to its project goals, in the brand strategy, sales forecast and production philosophy.

- Trust in the plant manufacturer in respect of its technology, experience, innovation and quality philosophy: the 'know-how' it brings to the project.

- Positive and continuously cultivated business relations that include a regular exchange of ideas as well as the readiness of the plant manufacturer to provide the foil producer technical assistance.

Constantia Teich was founded in 1912 and is part of the Constantia Flexibles Group, employing about 900 people.

Working in a three to four shift operation, a vertically integrated production line – covering a spectrum from foil to end product – rolls, lacquers, laminates, deep draws, presses, cuts, embosses and stamps the materials according to customer requirements.

The company supplies multinational customers with foil lids for yoghurt, cover strips, wrappers for butter and cheese, forgery-proof printed foils for pharmaceutical products as well as complete aluminium tray and lid systems.

In 2006, a new, fully automatic rolling mill was installed, with a second expansion in operation since 2010. ■

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