

Successful commissioning of a dry grinding line for concrete pavers at Firth Industries, New Zealand

The Regensburg-based SR Schindler Maschinen-Anlagentechnik GmbH, a member of the globally acting Topwerk group, installed a new dry grinding line for concrete pavers at the masonry plant from Firth Industries. The company, headquartered in Auckland, is one of New Zealand's largest manufacturers of ready-mix concrete and masonry products for both the private and public sectors. In addition to ready-mix concrete products, Firth also produces building materials such as bagged concrete products and mortar. They have 80 production sites across NZ and 650 employees. Firth is one of the most important partners in the NZ construction industry.

With the new high-performance dry grinding line from SR Schindler, Firth Industries is expanding its range of high-quality concrete paving stones to broaden its market presence.

The new grinding line starts with a roller conveyor where the products to be processed are manually placed in layers with a slewing crane equipped with a 4-sided clamp. The subsequent layer pusher transports the layers in an endless row to the grinding machine. The grinding machine consists of 4 processing stations, each of which has 15 bediamonded millings or smoothening segments per grinding disc. The Dovetail guidances where the segments are fixed allow a quick replacement upon wear. The enlarged machine bed

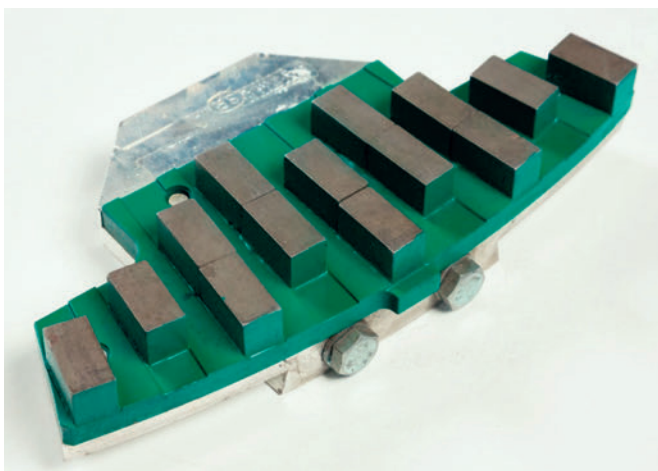
and transport belt make a retrofit of 2 more processing stations possible at a later stage.

The main drives, including the vertical movement of the spindles and transport belt, are frequency controlled, allowing a flexible treatment of the different product types. The automatic height adjustment is carried out using contact pressure control.

A high-performance blowing device at the outfeed of the grinder ensures a clean surface to the greatest possible extent.

A layer separator is installed downstream of the grinding machine, followed by two roller conveyors with frequency-controlled drives. The removal of the processed products from the grinding line is carried out manually with slewing crane equipped with a 4-sided clamp.

Firth can achieve a speed of 1,5 m/min working with our 1200 wide line which was designed for paver layers 1,000 mm x 1,200 mm and product thickness from 50 to 250 mm. Like all machines and systems from SR Schindler, the new grinding line at Firth Industries is exclusively equipped with electrical and mechanical components from well-known global manufacturers, which ensures that spare parts are quickly available.

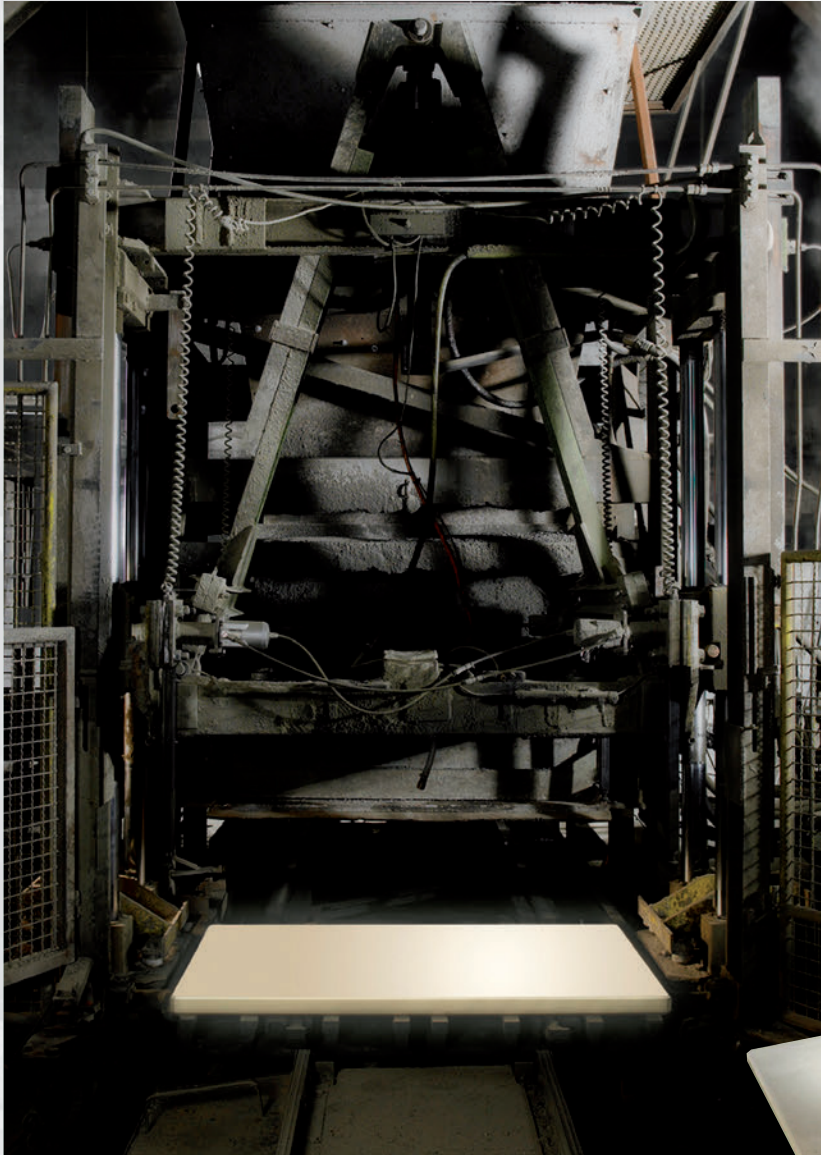


Smoothing segment with dovetail guidance



Complete grinding line

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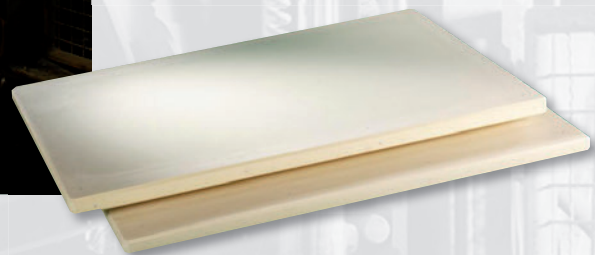
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Piping of dust extraction

"It was important to our New Zealand customer to get a system that not only meets the highest demands for accuracy and surface quality of the ground pavers, but, which is also equipped exclusively with high-quality components from well-known manufacturers. For this reason, we only use electric motors from SEW or heavy-duty conveyor belts from Siegling, which allow a maximum layer weight of up to 750 kg," reports Christoph Ditter, project manager at SR Schindler.

By using State-of-the-Art Siemens S7 control technology in conjunction with frequency-controlled drives, the Regensburg-based company has succeeded in significantly improving energy efficiency and tool wear and, in conjunction with a powerful dust extraction system provided by the customer, has contributed to low emission values for the new grinding line.

"Every day we are looking at ways to be more green and reduce waste, an advantage of the dry process is that we are able to recycle the waste in our mix design and reuse it to produce our pavers and blocks. With this system, we can significantly increase our production capacity and, at the same time, continue to meet the high-quality demands of our customers today and in the future." reports Francis Leslie, Head of Masonry for Firth Industries.

FURTHER INFORMATION



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