

SR-Schindler Steinbearbeitungsmaschinen und Anlagentechnik GmbH, 93057 Regensburg, Germany

A fine finish for concrete pavers in the middle of the desert

In the spring of 2007, a United Arab Emirates paver manufacturer made the decision to order a grinding line for concrete pavers from SR-Schindler GmbH based in Regensburg, Germany. The technical and commercial details were swiftly clarified and the line set up according to the customer's wishes in the spring of 2008. Compared to local competitors, the customer has gained a significant edge in the market with this finishing plant.

The finishing plant is set up for 900 x 1,200 mm layer dimensions with the smallest block measuring 100 x 100 mm. At the plant's outset, there is a belt conveyor permitting block layers to be positioned semi-automatically with the customer's own clamp. The block layers are conveyed with the 1,200 mm side in the direction of flow to a special layer pusher device. This pusher's particular construction makes it possible to insert one layer of blocks into the drum turner and simultaneously transport the next layer directly in front of the drum.

This drum turner revolves the layer by 180° so that the backing concrete faces upwards for calibration purposes. The drum turner is so devised that even small products can be handled and then removed from this machine without tipping over into the conveyor rollers and causing jamming.

An accumulating roller chain conveyor and layer pusher are then charged with the trouble-free function of inserting the products in



At the outset of the finishing plant, there is a belt conveyor permitting the block layers to be positioned semi-automatically with the customer's own clamp



An accumulating roller chain conveyor and layer pusher then insert the products into the calibrating machine

endless succession into the calibrating machine. Using a wet process, they are here calibrated on the backing concrete side to a working width of 900 mm in two stages with diamond segment milling equipment. Calibration is particularly recommended for products which issue from a block maker and exhibit height tolerances of at least +/- 1.5 mm. Without calibration, the differences in height would mean that products would sit irregularly on the armoured bed of the grinding machine with the consequence that they would not be ground evenly. Once the backing concrete has been calibrated, the block layers are conveyed via a layer separator to another special drum turner where they are rotated 180° to the face concrete side and transported by accumulating roller chain conveyor and layer pusher into a grinding machine.

This grinding machine offers the best processing possible and possesses 8 stages in which, depending on the product, specific parameters for rotation, grinding pressure and height adjustment can be set by means of stored data in its control unit. Individual stages can be deactivated to suit needs. In the case at hand, the machine is set up with 4 milling stages, 2 polishing stages and 2 grinding stages – each with its appropriate motor adapted to function, grinding, milling, etc.

When products leave the grinding machine, they pass through a drying stage with a total of 10 fans on an accumulating roller chain conveyor. The fans make sure that the products are dried from both above and below so that they can afterwards be impregnated.

Coating agent is sprayed onto the products from a line of jets which is attached to a bridge located above the transport path. Both the range and the amount of the material sprayed can be adjusted. Once the products have sufficiently dried after the spraying stage, the layers are separated by a layer separator. Each individual layer



The grinding machine possesses 8 stages for milling, polishing and grinding

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Technology for the Concrete Industry



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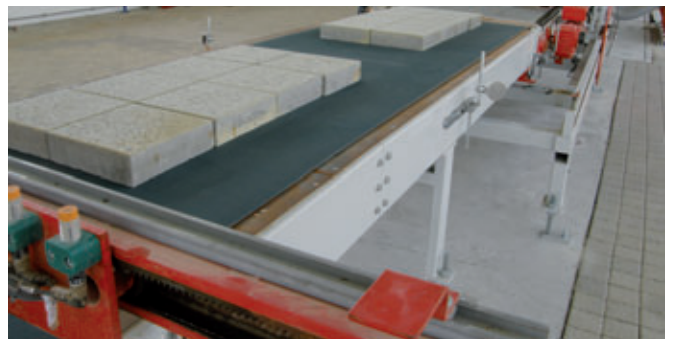
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When products leave the grinding machine, they pass through a drying stage with a total of 10 fans on an accumulating roller chain conveyor

is made ready for packaging and covered with plastic film or nets by means of a layer pad dispenser. Once the layers have been prepared, they are removed semi-automatically with the customer's own clamp and stacked in block layer packages on pallets. A Siemens S7 control unit ensures a synchronised process flow of the transport and handling elements and the processing machines. Due to prevailing environmental conditions, the control cabinets have been housed in a separate cooled room and all transmission frequency converters have been insulated against heat. Since it is planned eventually to automate the input and output at a later date, the plant has been set up for a maximum processing speed of 5 m/min.



Products sprayed with coating agent after completing their journey through the plant

FURTHER INFORMATION



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WASA UNIPLAST® WASA UNIPLAST® ULTRA



WASA HARDWOOD

WASA UNIPLAST®

- ▶ excellent vibration transmission due to solid material
- ▶ flat, smooth, join-free surface
- ▶ extremely long service life
- ▶ profile on the longitudinal sides (protection against pusher damage)
- ▶ on-site re-grinding service

WASA UNIPLAST® ULTRA

- ▶ improved characteristics compared to **WASA UNIPLAST®** standard but material completely microfiber reinforced
- ▶ increased load-bearing capacity
- ▶ extremely impact resistant
- ▶ possible to design without profiles

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WASA SOFTWOOD

WASA HARDWOOD

- ▶ wood types: Yellow Balau/Bankirai or Azobé/Bongossi
- ▶ individual boards with tongue and groove joint and 10 mm steel bars with self-locking nuts (self-securing)
- ▶ 1.5 to 3 mm C profiles, riveted
- ▶ level ground surface

WASA SOFTWOOD

- ▶ wood types: European fir/spruce or pine
- ▶ individual boards with multi-toothed glued joints
- ▶ additional steel bars upon request
- ▶ 2 to 3 mm C profiles
- ▶ 1-3 full rivets per profile
- ▶ level ground surface and treated with special impregnation

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