

New technology: HOMAG develops dividing and profiling line for unusual laminate

Anyone designing and building their own home will have a keen eye on aesthetics and creating that all-important feel-good factor. The choice of floor covering can make a decisive difference here: We all attach importance to what is under our feet and appreciate premium quality or unusual surfaces. At the same time, many home owners want their floor to be more hard-wearing and less costly than parquet. A new development from HOMAG has now made it a whole lot easier to satisfy home owners with ambitious plans for their living area.

The look: All the appearance of solid wood

When it comes to selecting the “right” floor covering, one of the options currently riding high in terms of popularity is the laminate flooring plank, which comes extremely close to the look of authentic solid wood. This trend is also beginning to make a real impact on the American market, where this type of laminate flooring is all the rage. A renowned American flooring producer had the idea of developing a narrow laminate flooring plank with a new feature. What makes this new product so special is a pressed chamfer on the plank which no longer has to be trimmed and lacquered when profiling the longitudinal and transverse edges of each flooring plank. The chamfer is already impressed into the large-format raw panel.

The solution goes by the name HOMAG FSL 480

To manufacture these innovative laminate flooring planks, HOMAG Engineering developed a new type of dividing and profiling line in cooperation with the customer. The result looking at the final product: The same decor is visible at the chamfer as on the surface, lending the flooring a cohesive, high-grade appearance and a look which is practically indistinguishable from the real thing.

The challenges faced in the manufacture include dividing the raw panel with the pressed chamfer already in place. The dividing cuts have to be positioned so precisely that the chamfer is not damaged, while sufficient material still remains next to the chamfer to trim a click profile.

This is taken care of by the high-precision rip saw HOMAG FSL 480. Equipped with an array of proven components from the family of HOMAG double-end tenoners – such as a rolling magnetic chain, top pressure beam with composite V-belt and individual flexibly adjustable sawing units – this machine comes with the ideal qualifications for the job.

How the FSL 480 works

The camera system is able to detect the position of the panel by scanning markings on the raw panel surface, and passes this information on to the two coupled-motion servo-controlled grippers. The grippers align the panel precisely as it passes through before it reaches a position between the chain track and top pressure beam. In a parallel process, the cascade-formation sawing units are also traversed by servo motor to the correct position (see picture). Once the two outside edges of the raw panel have been trimmed by hogs, these cut the panel precisely into strips from the outside to the inside.

In front of the downstream cross-cutting saw FSQ 380, the strips cut in the rip saw are transported into a magazine. Once removed from the bottom of the magazine, as in the rip saw a camera is used to detect markings in the decor and align the strips in the transverse direction, so ensuring a high-precision center cut. A second camera measures the position of the planks again in order to make sure of precise servo positioning of the hogger. This ensures that two planks are cut to precisely the same dimensions.

Downstream from the cross-cutting saw, a vacuum belt accelerates the planks in the longitudinal direction to a speed of 200 m/min. and guides them towards

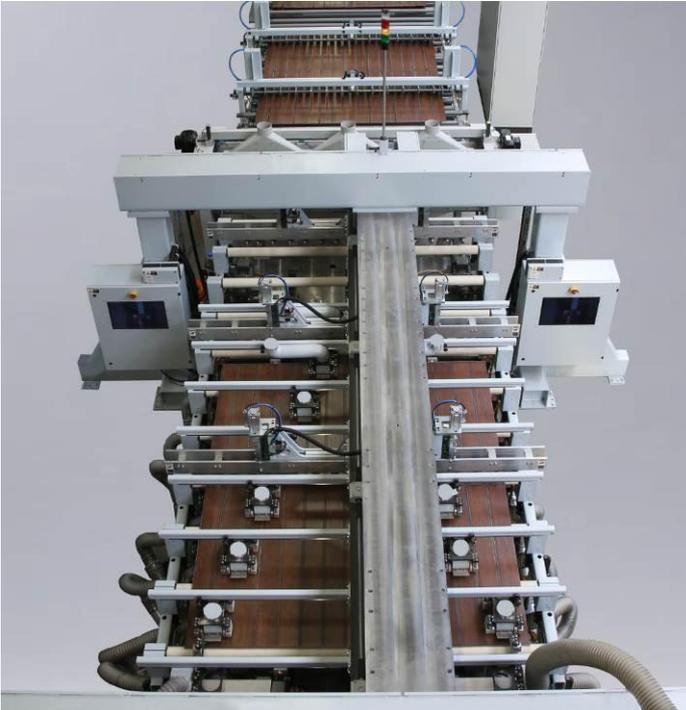
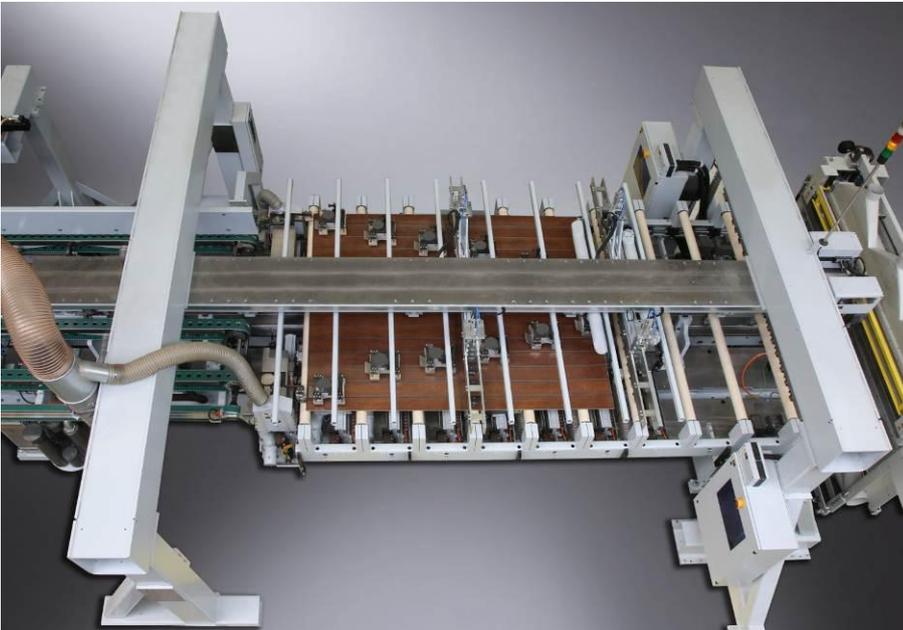
the longitudinal and transverse profiling units. To ensure maximum flexibility coupled with minimal resetting times, the complete line is reset fully automatically to accommodate a change of format. This encompasses width adjustment of the saws and double-end tenoners, adjustment of the sawing and trimming units and also resetting of the magazines in front of and behind the cross-cutting saw using servo motors. The only minor manual intervention required is to the guide fence, and even this resetting process is substantially simplified by the use of a digital display with setpoint value.

A whole new performance category

At the same time, HOMAG Engineering instigated a whole new dimension in cutting or rather panel dividing output. Combining magnetic chain technology with sawing units controlled by camera systems allows outputs of up to twelve large-format panels per minute with a tolerance of +/- 0.1 mm to be achieved. This marks a whole new performance category which is unprecedented in the field of sawing technology.

The example of the FSL 480 is confirmation of the current trend towards diminishing batch sizes. At the same time, innovative products also call for innovative and flexible production solutions. Taking an overall viewpoint, the best solutions and concepts for complete flooring lines to meet individual needs, for instance, are engineered by the HOMAG Group. All the modules of a flooring line are designed and coordinated specifically by HOMAG Group Engineering, guaranteeing that the optimum, most suitable solution is installed in every section of the line.

Pictures courtesy of: HOMAG Holzbearbeitungssysteme GmbH



Figs. 1 a and b:

The panels are sawn with the utmost precision from inside to out on sawing units arranged in cascade formation – echoing the shape of a Christmas tree.



Fig. 2:
The sawing units are traversed by servo motors to the correct position for cutting after the two outer edges of the raw panel have been trimmed by hoppers.



Fig. 3:
Infed area of the FSL480: Top pressure beam above the chain track provides optimum fixture for the raw panel.

For more information, contact

HOMAG Holzbearbeitungssysteme GmbH

Homagstraße 3–5
72296 SCHOPFLOCH
GERMANY
www.homag.com

Alexander Prokisch

Head of Central Marketing
Tel. +49 7443 13-3122
Fax +49 7443 13-8-3122
alexander.prokisch@homag-group.com