

*UPM's WISA veneers  
bring the natural beauty  
of wood to life.*

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# Bringing out the beauty of wood

## Veneer drying with humidity control

One of the world's leading forest product groups, UPM, produces among other things special veneers that are marketed under the WISA brand. At Lohja Veneer mill in Finland, some 14,000 m<sup>3</sup> of veneer made from birch and pine is produced annually for markets across the world. The main end use applications of this beautiful material are furniture, doors and interior decorations of different kinds. In the veneer drying process, the plant counts on Vaisala's dewpoint transmitters that can take the heat.

Veneer refers to thin slices of wood, typically between 0.5 and 3.0 mm. Veneer is spliced into sheets, and can then be glued and pressed onto core panels of different materials to obtain furniture, doors and interior decorations. The decorative end uses set high demands on the control of the veneer production process. The drying process plays a key role as accurate dewpoint control ensures that the best quality veneer is obtained at all times.

### Veneer making step-by-step

In veneer production, one of the first steps is cooking the log. Next, the wet log is flat sliced, much like salami is sliced at the delicatessen. Veneer is fed into a press dryer, where it travels between two conveyors through the high temperature dryer. In modern dryers, separate zones allow tight control and adjustment of the internal temperature and humidity of the dryer. The veneer exits the dryer, sheet by sheet, ready to be graded, cut into matching size sheets and bundled.



*The veneer sheets are passed through the dryer and collected by operators at the end of the line.*

### A state-of-the-art mill

Sami Janhunen works as a Plant Engineer at UPM’s Veneer Mill in Lohja, Finland. His responsibilities include maintaining and developing the production equipment at the plant. A major project was realized roughly a year ago, when a large part of the equipment was modernized to meet the highest quality, capacity and work safety requirements. This was done in co-operation with Raute, the world market leader as a supplier of mill-wide projects to the veneer-based wood product industry. At this time, the equipment supplier Raute chose to include Vaisala DRYCAP® Dewpoint Transmitters DMP246 as humidity control instruments for the dryer. This product has since been replaced by the DMT346.

Previously, there was no measurement of humidity in the dryer at Lohja mill, and running the process depended on the operators’ good experience and craftsmanship. Still today, professional skills are important, and there is no set of parameters as precise as the human eye to evaluate the appearance of veneer. However, on-line measurement data gives a whole new basis for controlling the process.

### Quality through dewpoint control

Janhunen explains: “Quality is our main driver, and there the drying process has

an important role. The veneer must be dried well for it to be flat, flexible and suitable for further processing. Our customers continue to splice the veneer into sheets, and to succeed in that, the veneer moisture content must be at a suitable and even level. Too dry veneer may cause problems in splicing because it becomes brittle and may break. From the veneer manufacturer’s point of view, over-drying is uneconomical in terms of energy and capacity losses and decline in veneer quality.”

### Direct installation with no sampling systems

The humidity inside a dryer is measured with Vaisala DRYCAP® Dewpoint Transmitters DMP246, which are directly installed into different zones of the dryer. No complicated sampling systems are needed. The measurement information is connected to the operating system of the dryer, which connects all relevant information needed to control the dryer operation. The data of this PLC-based system may be accessed from remote monitors at the operator’s location and changes to operating procedures are made on touch screens.

Janhunen says the Vaisala equipment meets their expectations well: “The units follow the process changes in a satisfying way. They play their part in the plant upgrade that has been positive for us in every way.” ■



*The Vaisala DRYCAP® Dewpoint Transmitter DMT346, as its predecessor DMP246, can be directly installed into temperatures up to 350 °C (662 °F).*

*UPM Special Veneer Plant Engineer Sami Janhunen (left) together with Vaisala Sales Engineer Jukka Kalliokoski.*

