

Measuring the Moisture in Wood and Paper

Chips, Fibers, Boards, Pellets, Rolls, Sheets, Webs

The properties of wood products, like all solid and bulk materials, can be measured with increasing accuracy as the homogeneity of the product increases. This makes the microwave resonance method a particularly good choice when it comes to measuring the moisture in well-mixed, pre-dried wood fibers and chips - and the finished products made from them. Measuring specifically benefits from the fact that differences in color, density or board thickness will have no effect.

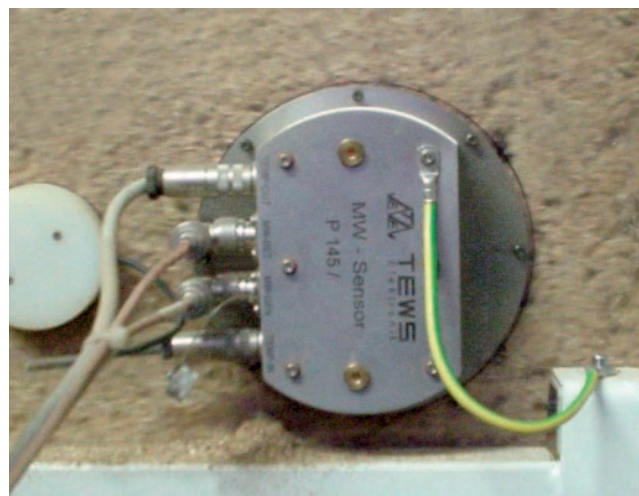
Quality assurance

During the entire process of plywood, particle and fiber board and wood pellet production, measuring the product moisture plays a decisive role. If the product moisture is too high or too low, it will lead to lower quality, or further processing of the intermediate products may be stopped altogether. Ongoing and accurate moisture measuring allows operators to quickly correct the process if there are any problems and helps to ensure a high level of quality standard.

Dryer control

At various points in the process, moisture must always be within a specified target range. Energy can be wasted if the product is dried more than necessary. For example, if a drier is integrated into the production line, by continuously measuring the moisture content of the product, the drying process can be adjusted automatically to reduce the energy costs.





PRACTICAL EXAMPLES:

Product		Moisture Range
MDF fiber	fiber board production	5 – 15%
Fiber boards	finished boards	3 – 8%
Wood chips	particle board production	2 – 5%
Wood chips	pellet production	4 – 12%
Wooden sticks and boards	parquet production	4 – 12%
Wood chips w/o bark	paper production	20 – 40%
Paper	web in paper machine	4 – 8%
Tissue paper	measuring in rolls	3 – 7%
Paper foils and strips	measuring of samples, fork sensor	1 – 7%

Paper and printing industries

An important quality characteristic of the paper processing industry is the moisture profile of rolls of paper. Due to their high-speed measuring technology, microwave resonance instruments for on-line measurements can work within a production line on the fast-moving webs of paper. Moisture will be measured not only at the surface but also inside the paper without being influenced by varying grammage or color hues.

Moisture sensor capabilities include the measuring of glue layers applied to paper and the drying of printing inks.