



THE PLATOWOOD PROCESS

Platowood uses fast-growing wood from sustainably managed FSC-forests, where biodiversity, the working conditions of forest workers and the rights of the original forest inhabitants are of primary concern. Through a unique and patented refinement process (Platonising) the wood is boiled, dried and baked (hydro-thermal modification).

Hydrothermolysis processing (boiling)

The hydrothermolysis processing is a wet heating of the wood under high pressure. At first, the planks, beams or poles are latted into a production package and driven into a so-called autoclave by trolley. Inside the autoclave, the wood is heated by saturated steam under high pressure. Under previously determined conditions the wood is heated, thermalized for a certain time, and cooled down again. At this point, the wood has been thermalized and is ready to move on to the next phase in the Platowood process.

Drying

After thermalizing, the wood needs to be dried before the last phase of the process can be executed. Once the drying chamber has been loaded up with the thermalized wood, it is slowly heated, after which the wood will be re-dried to about 8% timber moisture content, over a period of 5-21 days. While the drying is in progress, humidity sensors are constantly measuring and mapping the moisture content. Together with the temperature of the drying chamber, relative humidity and time passed, these measurements make up the input parameters that are integrated in a fully automated operating program. The duration of the drying process is mainly determined by the wood sort and the size of the grain-ended side. After all this, the wood is ready to go through the last phase of the process, the curing stage.

Curing (the baking)

During the curing, the wood is heated up once more, but this time it is under dry and atmospheric conditions. A large oven is used, filled with some 80 m3 timber. Within the oven, several heaters have been set up, and fans circulate the hot air throughout the oven. Following previously determined conditions, the wood is heated, cured for a set time, and cooled down again. The total duration of this phase of the process is approximately 12-16 hours, depending on the wood sort and the size of the grain-ended side. During curing it is essential that the oxygen level is below 2%, mainly in order to prevent fire. This oxygen level is accomplished by means of injecting overheated steam into the oven while the curing is in progress.

After curing, the Platowood is practically bone-dry and it gets conditioned to a higher timber moisture content (3-5%) in one of the drying chamber. This lasts about three days, after which it is ready for use.

About the process

The Platowood process is a hydro-thermal modification of timber that leads to a greatly improved durability. Moreover, the dimension stability is strongly improved, which means the wood will shrink or grow much less. The unique refinement process is a completely environmentally safe process, in which only water and energy are used. Since in no way (toxic) chemicals are added to the wood, Platowood hardly taxes the environment. Even the waste water, which only contains some organic wood elements, is treated in a waste water treatment plant.