

## **Projects and Solutions for North America**

MINDA has more than two decades of experience in the North American market for solid wood and engineered wood products. A key component of this development is the long-standing partnership with the machinery manufacturer Deal Metal Fabrication in North Carolina, USA, which has been part of the MINDA Group as Minda North America LLC since 2020. With a team of over 50 employees, the company implements customized solutions on-site, from planning through to commissioning. Numerous projects have already been successfully completed for well-known companies such as Sterling Solutions, Smartlam North America, Freres Engineered Wood, Mercer Mass Timber, and Boise Cascade. The following selection of projects provides insight into the range of solutions as well as the specific requirements and challenges within the industry. These projects impressively highlight the diversity of the North American wood industry, which differs from the European market in many respects. Thanks to its long-standing local presence and expertise in solid wood, MINDA is always able to deliver the right system solution.

### **Sterling Solution**

In 2016, the first of two production lines for Sterling Solutions was installed and commissioned in Phoenix, Illinois. A second line followed in Lufkin, Texas, in 2019. These lines produce Access Mats, which are comparable to CLT. Mobile walkways and work platforms are constructed from panels with three, five, or seven layers. In each of the two lines, three mobile presses, type TimberPress X 224 form the heart of the system. The length and cross layers are transported to the laying area via separate feeding lines.

In one press filling, up to eight panels with three layers or five panels with five layers can be produced. The panels are always approximately 2.4 m wide and can be produced in three different lengths—4.3 m, 4.9 m, and 5.5 m. Thanks to a fast laying process, a fast-curing PUR glue, and optimized presses, a finished panel can leave the line approximately every minute. According to MINDA, this is resulting in one of the highest-performing CLT lines in the world.

For several years now, Sterling Solution has also been active in structural applications with Sterling Structural. To accommodate this, MINDA has made further adjustments to the presses.

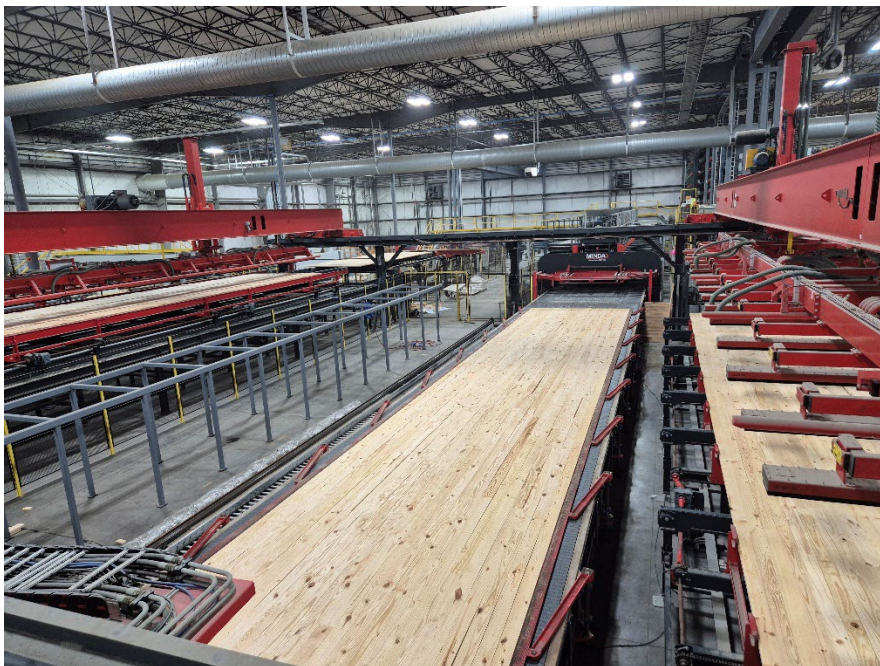


Three CLT presses type TimberPress X 224 in operation at Sterling. The finished panels leave the lines every minute

### **Mercer Mass Timber**

The largest MINDA production facility can be found in North America at Mercer Mass Timber in Arkansas. In addition to its newest facility in Arkansas, Mercer operates another GLT production plant in the state of Washington and a hybrid production facility for GLT and CLT in British Columbia, Canada. The plant in Conway, Arkansas, is also a hybrid production facility for CLT and GLT, where MINDA is responsible for all machine technology for the area starting from the outfeed behind the finger-jointing line.

After planing and primer spraying, the lamellas are temporarily stored on one of the five levels of the multi-level warehouse. From there, the GLT and CLT lines can be fed separately. The high-speed version of the TimberPress X 337 is used in the CLT production line. Due to the increasingly high demands on surface quality and the use of sanding machines, special attention was paid to the quality of the pressed blank during the continuous development of the presses—apart from speed and cycle time.



The loading area for the CLT layers in front of the TimberPress X 337 HS at Mercer in Arkansas

This allows material removal during sanding to be reduced to a minimum.

Behind the press is a repair station, a panel turning device, and the integration of various joinery machines as well as a sanding machine.

The GLT line features a distinctive characteristic compared to European lines. In the U.S., large GLT cross-sections are not produced by block gluing, but by alternating narrow and wide lamellas, in a brick structure. These “multiple-piece lamination beams and columns,” or “split beams” in short, are primarily used as solid columns in CLT-GLT hybrid buildings.

To automate this unique process in production as efficiently as possible and with high process reliability, MINDA has developed a joint gluing system for single-layer panels and modified the proven TimberPress V 120.



MINDA has modified the TimberPress V 120 glulam press to produce split beams

## Freres Engineered Wood

A relatively unknown engineered wood product on the European market are solid, large-format plywood panels used as wall and ceiling elements. Freres Wood developed this product in the U.S. state of Oregon in collaboration with Oregon State University as part of an effort to enhance value creation. The result was the Mass Ply Panel.

It offers an alternative to conventional CLT made from lamellas. Even the small-format plywood panels, as raw material, can be specifically tailored in the individual layers according to different qualities an orientations and the expected load for their future intended use. This allows higher load-bearing capacities or smaller cross-sections compared to CLT.

In an intermediate step, Freres produces strips up to 14.8 m long from the 1.2 m by 2.4 m plywood panels by shafting.

Since 2018, these strips have been assembled into panels and pressed on the MINDA production line. These panels can be produced up to 3.7 m wide and 14.8 m long. An expansion stage to over 18 m in length was considered in the layout from the very beginning.

A MUF glue is used. To achieve a high press capacity, multiple panels can be produced at once and separated behind the press. The panels are then either fed into a CNC joinery system or separated into strip-shaped “Mass Ply Lams” on a band saw line.



The TimberPress X 337 presses Mass Ply Panels with a pressing pressure of up to 1 N/mm<sup>2</sup>