

First CLT Press by German Manufacturer



For decades Minda is one of the leading companies designing press systems for the production of glue laminated timber. Their latest product is a hydraulic press system for the production of cross laminated timber. The first complete system was installed at Eugen Decker Holzindustrie KG in April.

This company is convinced of the sustainable material cross laminated timber and its further positive development. Since 2008 Decker is producing cross laminated timber with a simple mechanization. The decision for a customized, flexible and order-related production adapted to the individual needs was made in July 2010.

The new cross laminated timber system had to fulfil the following requirements: Destacking of the cross and longitudinal layers, the arrangement as well as the glue application to the boards and their subsequent pressing. The lamellae of one layer should previously not have been jointed together to one panel, this means no glue had to be applied to the narrow sides of the boards, in order to avoid uncontrolled stress cracks in the top layer.

Production concept

The lamellae of the cross and longitudinal layers are assembled on the positioning table and glue is applied. Initially

the longitudinal layers are pushed together laterally and are compressed by special alignment devices; the cross layers are also pressed together in a separate device and placed on the positioning table, so that gaps and grooves in between the single boards are closed as far as possible. This compressed layer stack is loaded into the press. Before main pressure is applied the outer longitudinal layers and cross layers are pressed together with high force. This plant concept is characterized by a very flexible operation and a cost-effective compact construction.

CLT press

Minda designed a hydraulic CLT press for this manufacturing process. Accurate adjustment control and monitoring allows the application of very high pressing forces with low energy input. The press designed for very large sizes can apply pressure of 0.8 N/mm^2 , which corresponds to a burden of 272 t/m given a pressing width of up to 3.40 m . This will be carried by an extremely stable steel frame. By means of large pressing plates this force will be applied to the wood package lying on a flat pressing table.

Their server provides the adjustment data and controls the press system fully automatically. This CLT press is designed for any plate measurement. Thus any cross laminated timber size can be produced.

Common lengths are 6 m up to 18 m , widths from 2.20 m up to 3.40 m at a plate thickness of 100 mm up to 300 mm .

The loading of the press is carried out by means of a heavy-duty modular belt conveyor, which runs through the press in longitudinal direction. The advantage of this system is the quick loading process. Whilst a finished pressed element leaves the press, a new element is fed into the press. Because of the flat even surface of the modular belt conveyor a smooth and seamless transport of the glued board stacks is possible. The maintenance and cleaning of this transport system is very easy; Minda has made very good experiences using these belts for decades.

In combination with a high-performance twin stacking/destacking station for the positioning of the cross and longitudinal layers and a quick, movable portal glue application system an element with up to 9 layers can be composed and loaded into the press within shortest time. These features create the conditions for the use of quick hardening glues and thus a very high production performance is possible. After the pressing process the CLT element is discharged out of the press and fed to the downstream joinery machine. With a portal milling machine all profiles, accesses, window and door cut-outs as well as all cable channels are cut. Finally the finished CLT element is ready to be delivered to the customer.

Control system

The total process from the forming of the longitudinal and cross layers up to the pressing of multi-layer elements runs fully automatically, no further interfaces to other systems are necessary.

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CLT press with modular belt conveyor and stacker in the background