



In the early hours already, fully loaded trucks with different dimensions of laminated timber leave the factory in Bopfingen

The center piece of the new laminated timber line: the high-frequency press by Kallesoe

LADENBURGER

Laminated timber at high frequency

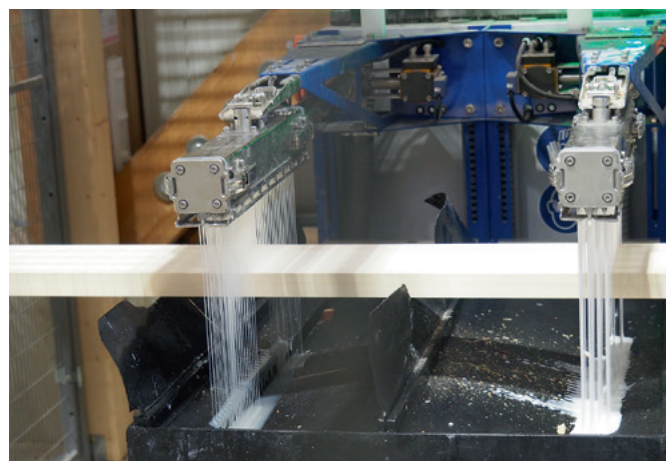
Technology brings benefits in terms of speed and costs

Ladenburger's new laminated timber factory at their Bopfingen site has been in operation since April. The new line is primarily used to manufacture duo and trio beams as well as in-house developed LSH (Ladenburger laminated wood). Unlike the most recent investment a few years ago, however, this time not a conventional star-shaped press system was used but high-frequency technology by manufacturer Kallesoe. Christoph Ladenburger, the company's technical manager, highlights the advantages during a tour.

 &  Martina Nöstler



The technical manager in Bopfingen, Christoph Ladenburger, gave a tour through the new production



Glue meets wood: The glue applicator applies the melamine resin glue with utmost precision – both are Akzo Nobel products



gen. „The main focus of the new production is on duo and trio beams as well as the production of Ladenburger laminated wood (LSH) – everything in industrial grade“, the technical factory manager Christoph Ladenburger explains during the factory tour. The new duo press line from Kallesoe can be used for planar and edge gluing (LSH). It facilitates flexible manufacturing of different products in one press line. Furthermore, also small glulam dimensions are possible.

Depending on the diameter, an output rate between 150 and 200 m³ per shift can be reached which projects an annual volume of about 80,000 m³ given a two-shift operation.

Advantage: Time

The suppliers of choice were Kallesoe (high-frequency press), Akzo Nobel (gluing and glue), Leifse (mechanization), Weinig (pre-planing and finished planing machines), Dimter (bucking), Grecon (finger-jointing) and Alfa (control). The advantage of using high-frequency technology is obvious to Ladenburger: „The cycle times are considerably shorter.“ Furthermore, the used melamine glue is cheaper than comparable gluing systems.

In the longitudinal throughput, the dried and pre-planed lamellas pass through the glue applicator by Akzo Nobel. It accurately „pours“ the melamine resin onto the lamellas. The following mechanization before the press comes from Kallesoe. Cross transport brings the glued lamellas to stack formation

where they are upended and held in position. When the full press width of 1.3 m is reached, a conveyor belt transports the package to the press. Kallesoe installed a laminated timber press of the type LHF6514. The entire system is designed for a maximum finished length of 13 m, the press itself measures 6.5 m. This means that the laminated timber is pressed in two cycles. The maximum height that this system allows is 24 cm.

One press cycle takes around four minutes, depending on the truss diameter. In other words: One batch of 13 m is finished in around eight minutes. „Compared to other press types, this saves an enormous amount of time“, Ladenburger elaborates. The appropriate press pressure is applied by means of hydraulic cylinders that are mounted on a continuous rail. On it, pneumatic cylinders secure the pressure beams which facilitates a quick changing of the pressure beams. „A dimension switch takes about three to five minutes“, the plant manager specifies.

A 200-kW generator takes care of quick and continuous glue curing. Polypropylene insulations as well as aluminum walls on both sides of the press provide radiation shielding.

Install, turn on – and go

Ladenburger is very satisfied with the way the Danish press specialist handled the whole process. Delivery and operation start-up followed the schedule precisely: „Kallesoe were the only plant suppliers who kept what they had promised. Set up, turn on, produce“, Ladenburger is delighted. It is his goal to run the line with three employees per shift.

When planning the hall, he paid particular attention to sufficient space: Depending on the market situation, the line could easily be expanded. „We could add another level and install a second press on top of the existing one“, Ladenburger explains. „From a current point of view, if we expand our supplier of choice would again be Kallesoe.“ //

KALLESOE MACHINERY

Establishment: 1969

Managing director: Bruno Kallesøe

Employees: 75

Location: Lem/DK

Products: Systems for the wood, metal and wind power industries, robotic solutions, special machine construction, high-frequency systems

LADENBURGER

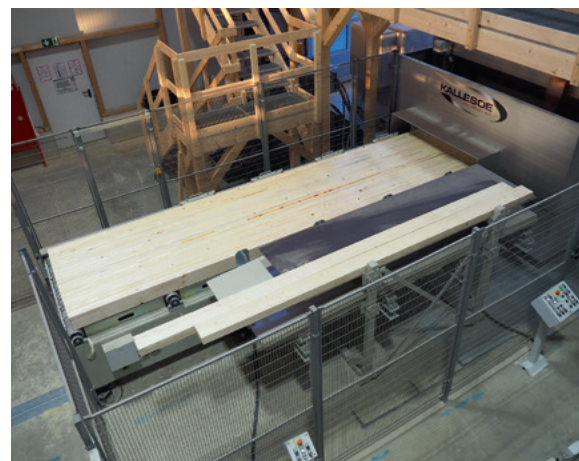
Managing directors: Viktor Ladenburger, Markus Hauber, Klaus Brodbeck, Steffen Häußlein, Martin Günther

Locations: Bopfingen-Aufhausen/DE (headquarters), Bopfingen/DE (1), Kerkingen/DE, Ederheim/DE, Geithain/DE

Employees in the group: 750

Products: Lumber, Ladenburger laminated timber (LSH), glulam, KVH, duolam/triolam, joining, planed goods, facade wood

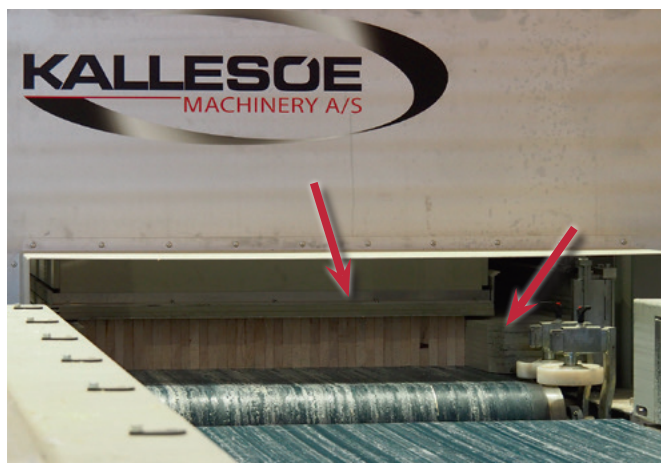
Laminated timber production: 80,000 m³/yr in the group (2017)



Discharge after the Kallesoe press: The finished trusses get planed and packaged afterwards



Truss forming: The mechanization by Kallesoe tilts the glued boards that come from the cross conveyor by 90° and this way packages are formed



A pressure plate from the top as well as side contact pressures that adapt to the product height secure the wood in the press