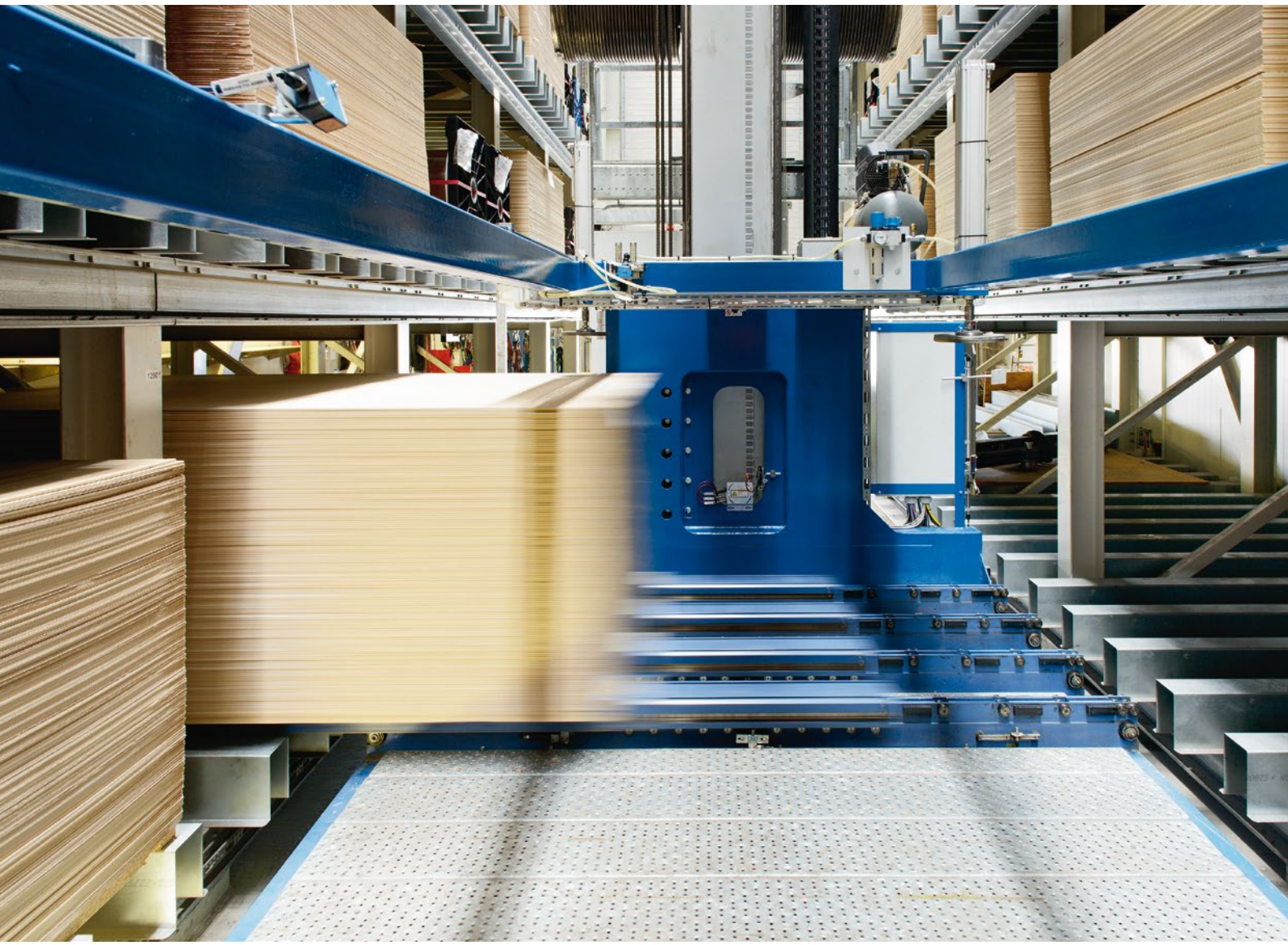
EGGER HOLZWERKSTOFFE WISMAR/GERMANY



INTRALOGISTICS

STRONG PERFORMANCE

45-TON STACKER CRANE INTEGRATED DURING OPERATION

THE CUSTOMER

In 1961 the Tyrolean entrepreneur Fritz Egger proved himself a man of vision and founded his first chipboard plant. In order not to be a competitor for the suppliers of his new resource – sawmill waste – he simply closed down the prosperous family sawmill.

Today the EGGER Group is one of the internationally leading wood processing companies. Almost on an annual basis new production plants are built, bought or modernized.

With 17 plants in six countries and about 7,100 employees EGGER serves the furniture industry, wood retailers, building centers and DIY stores with 7.4 million m³ of wood composite and timber.

The area of 900,000 m² in Wismar is accessible via road, rail or sea route.

On a former military site in Wismar, strategically well situated on the Baltic coast, the Austrian wood composite producer EGGER builds his 11th plant within one year in 1998.

The new location sets standards, technically and logistically – and in terms of the sustainable company policy focuses on integration: "In Wismar we not only produce fiber boards and process them to laminate floors, but we also make glue and binding material on site", maintenance manager Donald Zahm explains. "In two biomass heating plants process waste is converted into process heat."

Donald Zahm, maintenance manager in Wismar: "We permanently invest in the extension of our plants and keep a close eye on the running costs."

THE CHALLENGE

In the following years intralogistics on the location are gradually upgraded and solidified in order to keep up with the increasing production output.

In 2001, at a sensitive interface of the laminate production, an automated high-bay warehouse for high-density, up to 12 m² big fiber boards, which, after hot pressing, pass through a ripening process for several days, comes into existence. The stacker crane with a height of 29 meters has to deal with payloads of almost eight tons.

The handling of half-width pallets but with maximum payload is an additional difficulty: In order to also utilize the very back rack row, they are placed on the load handling device eccentrically. The asymmetric load-spreading leads to increasing signs of wear and tear such as numerous rope changings.

In 2008 the original stacker crane, not from LTW, is no longer up to the high demands, which is why the plant management decides to invest in a replacement.

In the light of the above, the positive experience with another high-bay warehouse, which has been in operation in Wismar since 2007, stands out – a pallet warehouse with a height of 30 meters for pre-packed laminate goods with 1,200 kg payload. General contractor and manufacturer of the stacker cranes: LTW.

"With this performance LTW also qualified for tasks in the top weight category", says Donald Zahm. "This is why LTW was our logical contact for supplying the new heavy-load stacker crane after the incident in the heavy-load warehouse."

This task poses a constructive challenge for LTW, even with two decades of heavy-duty experience: The extreme combination of the factors height, payload, loading cubature and excentric load result in a stacker crane with components beyond standard dimensions and a total weight of 45 tons – this is double the weight of a similar high crane in a pallet warehouse.

With focus on maximum safety on the one hand and costs on the other hand, LTW plans the kinetic values as cautiously as the required performance allows. Approved components, such as the six-tine telescopic fork and the rail system are taken on from the existing apparatus.

EGGER pallet warehouse with five stacker cranes and complex conveyor system – approved LTW quality in the project phase as well as in long-term usage.

The implementation of the LTW stacker crane with a payload of 7.7 tons and a height of 29 meters takes place within the agreed time. Compared to the previous crane, amongst other things bigger cable drums and optimized cable guide ensure less bending and therefore a longer life expectancy of the cable.

THE IMPLEMENTATION

The LTW concept is awarded the contract in March 2010. Manufacturing is not an obstacle for LTW as part of the Doppelmayr Group – ropeway components are often even bigger.

Assembly during full operation is more challenging. For eight weeks EGGER clears the rear fifth of the warehouse. LTW brings in the stacker crane masts and the yokes through a narrow roof opening, chassis and lifting device through a portal which is raised to six meters – also with regard to better accessibility of the stacker crane for future maintenance.

During the assembly, integration of the LTW components into the existing system produces a few surprises – but in close cooperation with the LTW headquarters in Wolfurt these challenges are managed within a short time and the project stays on track.

The dismantling of the old and the implementation of the new stacker crane take place on time, with three weeks of trial operation with short downtimes.

Donald Zahm sums up: "Of course you also have to eliminate hurdles with a project of these dimensions. However, the decisive point is that LTW was back on track in no time at all."

FOLLOW-UP PROJECT

The satisfaction of the customer is not only expressed in words: In August 2013 LTW is able to record a follow-up order for the EGGER headquarters in Tyrol – this time for five heavy-duty cranes, three meters higher and three tons heavier than the ones in Wismar.

PROJECT OUTLINE YEAR OF CONSTRUCTION 2007 / 2010

HIGH-BAY WAREHOUSE PALLETS

- Steel rack with silo structure
- L x W x H: 82 x 32 x 30 m
- 5 rack aisles
- Double-deep storage
- Approx 20,700 pallet spaces
- Payload: 1,200 kg
- Temperature range: +5 to +35 °C

STACKER CRANES

- 5 aisle-bound stacker cranes
- Driving speed: 180 m/min
- Driving acceleration: 0.60 m/s²
- Lifting speed: 60 m/min
- Lifting acceleration: 0.60 m/s²
- Load handling device: telescopic fork double-deep

CONVEYOR SYSTEM

On the ground floor with storage and retrieval stations including

- 1 transfer car in the high-bay warehouse, payload: 2,400 kg
- 2 transfer cars in the pre-zone, payload: 1,200 kg

SOFTWARE

- LTW warehouse management system for stacker cranes and conveyor system including visualization

HIGH-BAY WAREHOUSE HEAVY-DUTY

- Steel rack with silo structure
- L x W x H: 106 x 11 x 29 m
- 1 rack aisle
- Single-deep storage
- Approx. 950 spaces
- Payload: 7,700 kg
- Temperature range: +5 to +35 °C

STACKER CRANES

- 1 aisle-bound stacker crane
- Driving speed: 120 m/min
- Driving acceleration: 0.35 m/s²
- Lifting speed: 20 m/min
- Lifting acceleration: 0.30 m/s²
- Load handling device: 6-tine telescopic fork single-deep

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