

LTW INTRALOGISTICS SOLUTIONS FOR TIRE PRODUCTION



Why the use of a high-bay warehouse makes sense three times over

As experts in intralogistics solutions, we play a key role in advancing the automated flow of goods in tire production. How? Ideally, by implementing three high-bay warehouses. The production process in tire manufacturing is largely uniform. First, the tires are machine-produced but remain as „green tires“—blanks awaiting vulcanization. These green tires must be stored temporarily before moving to the vulcanization stage. Next, the vulcanized tires

undergo quality control (final finishing). Once they pass inspection, the finished tires are transferred to a buffer storage area before being prepared for shipment.

To optimize the flow of goods, we recommend three high-bay warehouses: one for storing green tires, one in the final finishing area, and one at the end of the production line for finished tires. This setup ensures a highly automated process, saving significant time, money, and space.

LTW TIRE PRODUCTION TYPES OF STORAGE

- Mold Storage
- Raw Material Storage
- Compound Storage
- Tread Book Storage
- Cassette Storage direct
- Green Tire Storage
- Cured Tire Storage
- Finished Tire Storage with or without Pallets



« We have known LTW at our Continental plant for more than 10 years as a very reliable supplier. We specify the key data and requirements and LTW provides suggestions for implementation.

Michael Štefka, Head of MTE , Continental barum s.r.o

CONTINENTAL

- Cooperation for over 15 years
- 40 projects in 8 countries
- Over 80 successfully implemented stacker cranes
- A-supplier award since 2010



LTW TIRE PRODUCTION INCREASED PRODUCTION AND QUALITY

Thanks to space optimization

Our automated systems enhance the flow of goods within the production chain by ensuring that materials are always in the right place at the right time. With our warehouse management software, LIOS WMS, stock levels are monitored in real-time and can be traced at any point, enabling better planning and forecasting. Additionally, precise and controlled storage of raw materials, semi-finished goods, and finished products helps maintain compliance with quality standards. As you can see, high-bay

warehouses offer more than just efficiency and cost benefits—they also play a crucial role in ensuring product quality and safety. This starts with incoming goods: raw materials, often delivered on various load carriers, can be easily stored thanks to the flexibility of our high-bay warehouses. The greatest advantage? Space optimization. Our high-bay warehouses maximize the use of available storage space through vertical and multiple-deep storage, ensuring every inch of your facility is utilized effectively.



LTW TIRE PRODUCTION GREEN TIRE HANDLING

Optimizing the process

During the production of green tires, various components are assembled in specialized "tire building machines." Before the green tire moves on to the next step – vulcanization – the inside of the tire must be sprayed to prevent it from sticking to the press cavity. Since these processes take less time than vulcanization, the green tires need to be temporarily stored. In the green tire warehouse, pressure-sensitive tires are stored on specially designed supports. Once the tires are ready for vulcanization, the presses automatically request the required items. The high-bay warehouse, integrated with conveyor technology and fully automated press delivery, ensures the timely and efficient delivery of green tires, making it an integral part of high-quality, optimized tire production.



LTW TIRE PRODUCTION **FINAL FINISHING WAREHOUSE**

Automatic sorting and buffer storage

After vulcanization, each tire must undergo a quality inspection. Only after passing this inspection area, they are classified as finished tires. The challenge? Different tire models are typically produced simultaneously across several hundred presses, which results in tires arriving at quality control in a disorganized manner before being stored. The solution? A high-bay warehouse that functions as both an automatic sorting and buffer warehouse. Additionally, production often yields more tires than quality control can process at once. To prevent congestion and avoid disrupting the workflow, a high-bay warehouse serves as a buffer, helping to harmonize material flows. This setup ensures that all processes within the production chain operate more efficiently and smoothly.

LTW TIRE PRODUCTION **FINISHED TIRE WAREHOUSE**

Storage of the finished goods

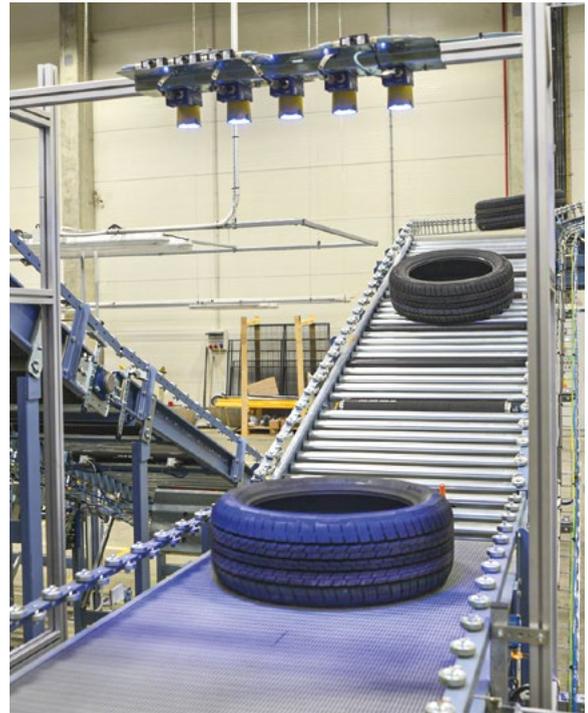
Once quality control is completed, the finished tires are sorted by model and stacked on loading aids, typically pallets. Only when a pallet for a specific tire model is complete is it stored in the high-bay warehouse, ensuring it is always ready for dispatch when needed.

When it's time for shipping, tires are removed from the loading aids and transported individually to the loading bay. A conveyor buffer between the destocking zone and the loading bay helps smooth out fluctuations in the flow of goods, ensuring a steady supply of tires to the loading bay.

LTWTIRE PRODUCTION CONNECTING ALL SYSTEMS

Part of the production chain

Whether the high-bay warehouse is used between production and vulcanization or between quality control and order picking, it can be seamlessly integrated into the production chain through our conveyor technology. This connection allows for smooth coordination between production lines and shipping. If needed, systems such as AGVs, palletizing robots, or other handling units can also be incorporated into the material flow. Thanks to our in-house developed LTW LIOS software family, we can integrate a wide variety of systems, ensuring a customized and efficient solution.



« We provided the benchmark data: number of articles, output, and peaks. LTW took care of the optimum implementation.

Michael Štefka, Head of MTE , Continental barum s.r.o

LTWTIRE PRODUCTION SOFTWARE

The connecting element

How do we ensure the perfect flow of goods? By using our reliable software, which can be fully tailored to our customers' specific needs. It not only guarantees smooth and efficient material flow but also optimizes warehouse processes, significantly enhancing quality assurance and cost efficiency.

Whether it's warehouse management, automated control, real-time monitoring, or traceability, our LIOS WMS software seamlessly integrates all production steps, further optimizing your processes.



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