

INDIVIDUALITY

PROVEN SOLUTIONS

TREAD LOADING AT TYRE BUILDING



OUR PRODUCTS:

- Material Handling Equipment
- High-Bay Storage Systems
- Area Storage Systems
- Automatic Storage and Retrieval Systems
- Feeding and Stacking Systems

OUR PRODUCTS FOR THE TYRE INDUSTRY:

- Automatic Tread Booking
- Manual Booking
- Scrap Handling
- Tread Loading at Tyre Building
- Green Tyre Handling
- Tyre Storage and Sorting
- Cassette and Leaf Truck Storage



Customer specific solutions

Knowledge
ensures movement

SYSTRAPLAN 
Individuelle Materialfluß- und Lagertechnik

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Loading systems
meeting highest standards

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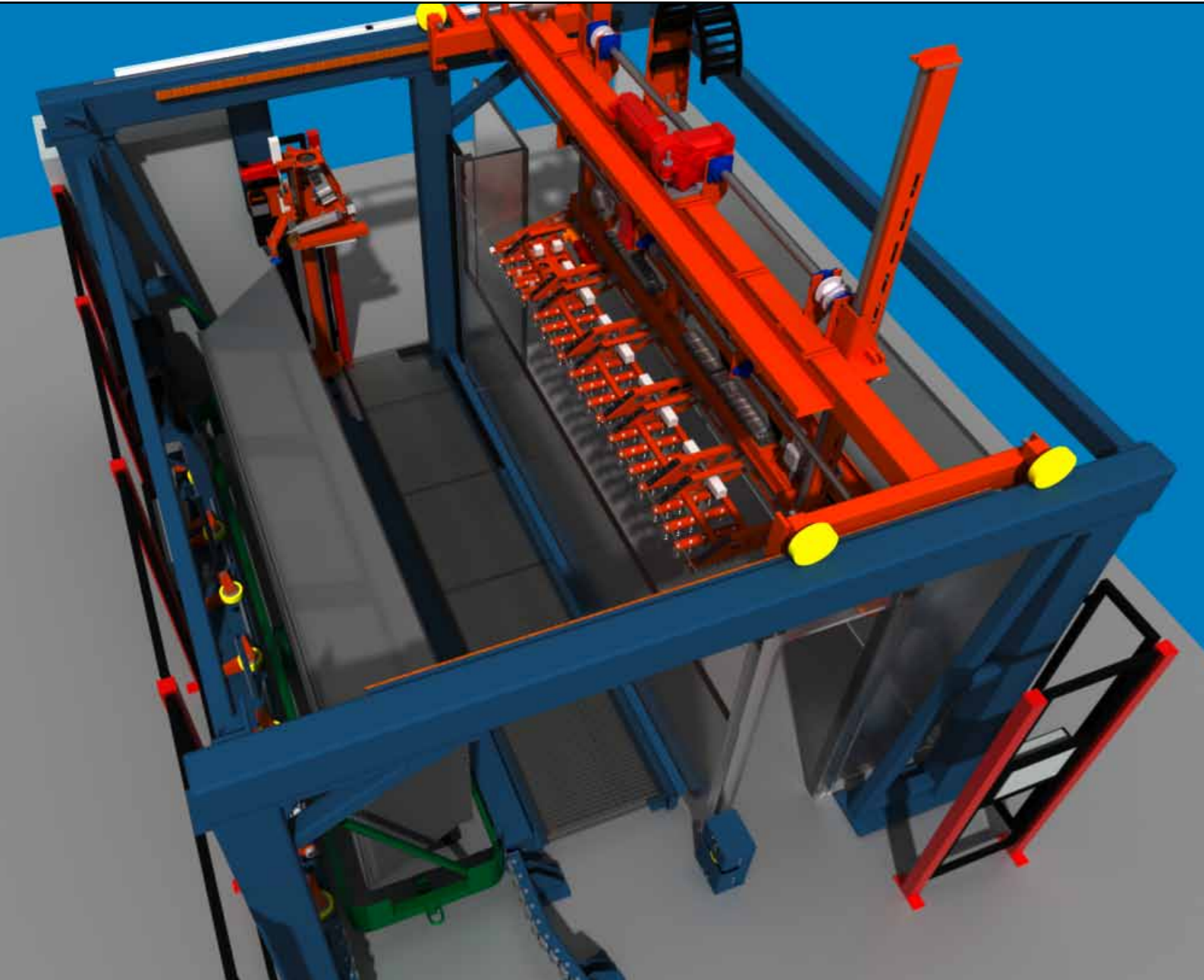
IMPROVED PRODUCT QUALITY

Improving Product Quality by Implementation of Automatic Tread Booking

Increase in quality through automated feeding of tyre building machines SYSTRAPLAN is offering a technically advanced solution for the automated tread booking of leaf trucks at the end of the extrusion lines for many years. Automatic unloading of leaf trucks at tyre building machines are often manually carried out by staff members. Apart from the physical stress, the focus is always on the quality of the manual handling.

SYSTRAPLAN offers a gantry for an automated discharging of treads from the leaf trucks.

DISTORTION FREE LOADING



Manpower efficiency with increased output

In particular, the dimensions and the weight of truck treads are in a range where the manual handling is linked with a heavy burden on the human body. This inevitably results in an improper handling of the treads in order to cover the workload and, consequently, deformations of the treads occur at the expense of the quality of the finished product. Increasing cycle outputs on the tyre building machines also force the tyre manufacturers to think about an automatization of the tread loading process.

Increase in product quality

The gantry system has an integrated suction frame that moves up and down on the gantry and picks single treads by means of an automatic adjustable "suction-carpet". All suction cups are arranged in grouped sections, are individually controllable and in longitudinal direction movable to cover the various different tread dimensions.

Automatic leaf truck positioning

Before the leaf truck, filled with treads, is automatically positioned for the unloading process at a determined position underneath the gantry, an operator manually conveys the leaf truck into the station.

Automatic detection of tread position

It is appropriate to load the leaf trucks by means of an automated leaf truck booking system. In this way the positioning of the treads stay within the required tolerances. A special sensor, which is riveted to the suction frame is automatically detecting the exact position of the tread whilst it is feed prior to the positioning of the suction frame and the tread collection.

Opening of leaf truck flaps

The opening of the leaf truck sides can be carried out manually by the operator as well as automatically. In the latter case, the sides are flipped open by a separate device.

Removing treads with "peel-off" effect

The focal point of the system is the detachment of the treads from the flaps of the leaf truck. The suction frame has down holding elements for a safe tread removal from the flaps. The time-delayed activation of the individual suction rows accomplishes a "peel-off" effect when removing the treads.

Feeding of tyre building machine

The treads removed from the leaf truck are then positioned through the gantry by means of the suction frame on the feed roller conveyor of the tyre building machine.



Advantages of Automatic Tread Loading:

- Improved product quality
- Continuous production - increased output
- Manpower efficiency

Automatic Tread Loading Systems at Tyre Building are composed of the following major components:

- Gantry system with vacuum frame for treads
- Automatic leaf fold-up device
- Leaf truck conveyor system for positioning
- Electrical control system (Allen Bradley, Siemens)

The Discharging Vacuum Frame comes with following special features:

- Time-delayed activation of the individual suction rows with "peel-off" effect
- Automatic adjustable "suction-caps"
- Downholders for a safe tread removal
- Special sensors for automatically detecting the exact position of the tread
- Servo drives in combination with standard PLC

The specialists
for material flow technique

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