



Innovative shuttle car solution moves totes for LINPAC Allibert

Client Case Study



LINPAC Allibert is the materials handling division of the LINPAC Group. The company manufactures Europe's largest range of products and services for returnable packaging and equipment in the retail and industrial end user sectors.

Last year LINPAC Allibert consolidated its plastic returnable packaging operations in the UK to its site in Winsford, Cheshire, creating a manufacturing and supply chain centre of excellence.

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Neil Chaplain
Head of Operations
LINPAC Allibert



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▶ Pallet elevator arrives on the ground floor of the Assembly Hall

▶ Pivoting transfer device conveys pallets from single bed shuttle car onto the triple bed car



A Tote Transport Challenge

There are over 3,000 product lines of moulded plastic totes manufactured by LINPAC Allibert at the Winsford site. Final assembly of the totes used to be carried out in the same building as the manufacturing facility, but at the end of last year the company built a dedicated Assembly Hall together with a new Warehouse and Distribution Centre.

The challenge for LB Foster Materials Handling (LB Foster), the chosen supplier, was to design an efficient system to transport the moulded totes by pallet around the two floors of the Assembly Hall and then into the warehouse next door.

Complex Operation

This is a complex operation as there can be up to 42 different product lines passing through the Assembly Hall at one time. The newly manufactured totes arrive by conveyor onto the mezzanine floor where some light assembly takes place. There is also a facility to store up to 700 pallets in this area. The main assembly area, however, is on the ground floor where there are five separate sub assembly stations.

Neil Chaplain is the Head of Operations for LINPAC Allibert and he was instrumental in selecting LB Foster to overcome the tote transport challenge. He comments, "We have a limited amount of space in the Assembly Hall and so a bespoke solution was required to enable the efficient throughput of the totes.

These need to be transported in a confined route around the assembly stations and into the warehouse, two areas which are a long way from each other.

"We selected LB Foster because they demonstrated their engineering expertise by interpreting the brief in a unique way. They worked closely with us to ensure that we have the most efficient and cost effective solution, supplying us with twelve different design drawings to meet the dynamic nature of our operation."

Innovative Solution using Shuttle Cars

LB Foster has designed, manufactured and installed a specialist handling system which makes innovative use of a vertical elevator, shuttle cars, chain driven powered roller conveyors and chain transfer devices.

To maximise the available space, the pallet elevator is located in the corner of the mezzanine. It has dual controls; tote requests are received from each of the five sub assembly areas downstairs and are fulfilled by the press of a button on the mezzanine floor. Once the pallet of totes reaches ground level it is transferred onto a single bed shuttle car. This delivers the pallet accurately to the correct sub assembly area or, if required, bypasses the assembly stations taking the pallet to a pivoting transfer device which send it via a second shuttle car directly through to the warehouse.

“It is a fully integrated installation that delivers the right products to the right area exactly when required.”

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Head of Operations
LINPAC Allibert

LB Foster
Materials Handling

Auto pallet dispensers feed three sizes of pallets to assembly area on request

Triple bed shuttle arrives in the warehouse through the covered tunnel



Once the sub assembly operations have been completed the finished totes are stacked on empty pallets at the rear of the assembly areas. These pallets are replenished by powered roller conveyor from an automated pallet dispenser. The full pallets are sent by transfer device via the conveyor to the second shuttle car for their onward journey into the warehouse.

This shuttle car operates with a special triple bed system enabling it to effectively transport three loaded pallets of finished totes through the covered tunnel to the warehouse. Inside the warehouse the totes continue on a powered conveyor through a stretch wrapping machine and then into storage.

Fully Integrated Installation

In addition to manufacturing the materials handling scheme, the in-house team at LB Foster also provided the controls system for the entire solution. “Using one UK based supplier for both the hardware and software was an additional benefit, facilitating the smooth installation and commissioning of the system.

“The controls are particularly important to ensure that the shuttle cars move swiftly, brake accurately and stop precisely. The innovative use of shuttle cars in the system has eliminated the need to install more complex transfer devices; it is a fully integrated installation that delivers the right products to the right area exactly when required,” concludes Chaplain.

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Head of Operations
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Leicester based LB Foster Materials Handling (previously CI Logistics) is a market-leading UK supplier and manufacturer of quality materials handling and storage systems. The company supplies equipment internationally including overhead conveyors, floor conveyors, garment conveyors and storage systems; it also has an in-house electrical controls design and build service enabling it to provide innovative solutions to all materials handling challenges.

LB Foster Materials Handling is a subdivision of its parent company LB Foster Rail Technologies UK - previously Portec Rail Products (UK) Ltd. which is owned by the American multi-national, LB Foster.



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Neil Chaplain
Head of Operations
LINPAC Allibert

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