



Combi-SC for Caledonian Modular

Case Study



One of Combilift's largest capacity models to date - a 28t capacity Straddle Carrier (Combi-SC) - is now in operation at Caledonian Modular's site in Newark near Nottingham, ensuring much more efficient and safe transportation of finished modules from the manufacturing facilities to the storage yards.

Caledonian Modular provides a full range of modular buildings such

as classrooms and offices, medium and high rise hotels, student halls and residential blocks. With four factories at the 42-acre Newark site it has the capacity to produce 800m² of accommodation units every day or a 120-bed hotel in a single week. Previous methods used for handling the modules, based around forklift trucks and manual handling were less than satisfactory, which prompted a review of how these could be improved.

"Issues we specifically wanted to address were safety and product damage," says Health and Safety Manager Mike Jefferey. "We were sure there had to be a better procedure than deploying three forklift trucks, three drivers and three banksmen to move one module. In addition, we were having to build the modules to a heavier specification than necessary purely so that they could withstand this lifting process. Following consultation with Combilift's Stephen Wells we identified the Combi-SC as the best solution to improve operations."

The Combi-SC's design allows it to cradle the load being carried, with chains and slings attached to the top and bottom of the modules from the frame enabling much gentler lifting and even weight distribution. Added safety for the top lift is provided by means of a specially designed fall arrest system. Finished modules can vary in length of up to 14.5m, in width of up to 5.5m with the largest weighing up to 28t. A series of 3-point adjustment bars on the beam offers a multitude of anchoring positions, ensuring easy handling

of any sized module. Caledonian has consequently been able to implement lighter construction methods, enabling manufacturing to be more cost effective and more competitive.

Combilift engineers customised the SC to accord with Caledonian's very specific requirements: its unique telescopic extending frame allows double stacking of 3.6m high modules for quicker transportation across the site. The 3-wheel, all wheel drive model is also the first to be fitted with oscillating suspension to cope with Caledonian's very testing ground conditions. A further benefit is its low axle weight compared to the combined exerted pressure of the three 16t forklifts on the yard: this avoids the typical problems of damage to surfaces and reinstatement costs associated with the use of equipment which has a very high unladen weight.

Modules are taken out of the manufacturing facilities using tugs, lifted on to the Combi-SC and transported to storage areas where they can be stacked one-on-one in rows with minimal space between them. This enables more economical storage compared with block stacking under the old system and makes retrieval of specific units much easier.

Mike Jefferey: "Thanks to the innovative design of the Combi-SC we have eliminated the risk of product damage and have been able to rationalise our manufacturing process. We need just two operatives per load – one driver and one banksman – so can make much better use of available manpower. We also benefit from speedier movement of units around the site, which is now a much safer working environment for our personnel. The set up has been so successful that we will be recommending this as the way forward for the Group as a whole."

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